

**ALGEBRA I****Tuesday, August 16, 2022 — 8:30 to 11:30 a.m., only**

Student Name \_\_\_\_\_

School Name \_\_\_\_\_

**The possession or use of any communications device is strictly prohibited when taking this examination. If you have or use any communications device, no matter how briefly, your examination will be invalidated and no score will be calculated for you.**

Print your name and the name of your school on the lines above.

A separate answer sheet for **Part I** has been provided to you. Follow the instructions from the proctor for completing the student information on your answer sheet.

This examination has four parts, with a total of 37 questions. You must answer all questions in this examination. Record your answers to the Part I multiple-choice questions on the separate answer sheet. Write your answers to the questions in **Parts II, III, and IV** directly in this booklet. All work should be written in pen, except for graphs and drawings, which should be done in pencil. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale.

The formulas that you may need to answer some questions in this examination are found at the end of the examination. This sheet is perforated so you may remove it from this booklet.

Scrap paper is not permitted for any part of this examination, but you may use the blank spaces in this booklet as scrap paper. A perforated sheet of scrap graph paper is provided at the end of this booklet for any question for which graphing may be helpful but is not required. You may remove this sheet from this booklet. Any work done on this sheet of scrap graph paper will *not* be scored.

When you have completed the examination, you must sign the statement printed at the end of the answer sheet, indicating that you had no unlawful knowledge of the questions or answers prior to the examination and that you have neither given nor received assistance in answering any of the questions during the examination. Your answer sheet cannot be accepted if you fail to sign this declaration.

**Notice ...**

**A graphing calculator and a straightedge (ruler) must be available for you to use while taking this examination.**

**DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.**

## Part I

Answer all 24 questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For each statement or question, choose the word or expression that, of those given, best completes the statement or answers the question. Record your answers on your separate answer sheet. [48]

Use this space for computations.

1 If  $f(x) = \frac{3x+4}{2}$ , then  $f(8)$  is

- (1) 21 (3) 14  
(2) 16 (4) 4

2 If  $x \neq 0$ , then the common ratio of the sequence  $x, 2x^2, 4x^3, 8x^4, 16x^5, \dots$  is

- (1)  $2x$  (3)  $x$   
(2) 2 (4)  $\frac{1}{2}x$

3 The expression  $36x^2 - 9$  is equivalent to

- (1)  $(6x - 3)^2$  (3)  $(6x + 3)(6x - 3)$   
(2)  $(18x - 4.5)^2$  (4)  $(18x + 4.5)(18x - 4.5)$

4 Given the relation  $R = \{(-4,2), (3,6), (x,8), (-1,4)\}$

Which value of  $x$  would make this relation a function?

- (1)  $-4$  (3) 3  
(2)  $-1$  (4) 0

5 If the point  $(K, -5)$  lies on the line whose equation is  $3x + y = 7$ , then the value of  $K$  is

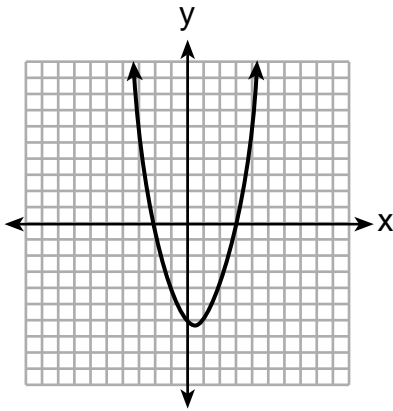
- (1)  $-8$  (3) 22  
(2)  $-4$  (4) 4

6 The expression  $\frac{1}{3}x(6x^2 - 3x + 9)$  is equivalent to

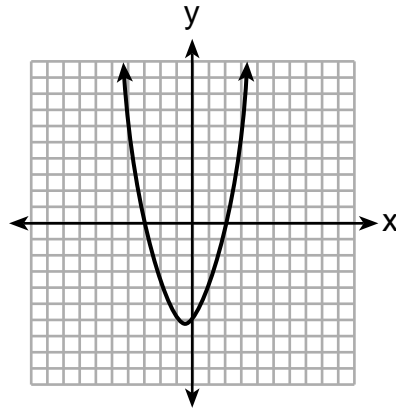
- (1)  $2x^2 - x + 3$  (3)  $2x^3 - x^2 + 3x$   
(2)  $2x^2 + 3x + 3$  (4)  $2x^3 + 3x^2 + 3x$

Use this space for  
computations.

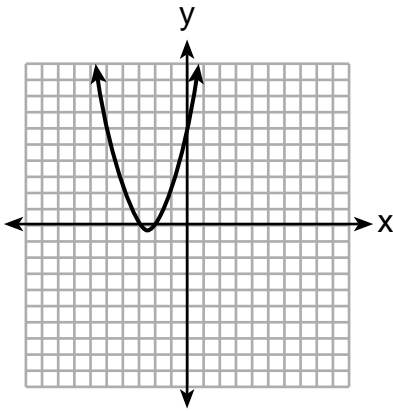
- 7 The graphs below represent four polynomial functions. Which of these functions has zeros of 2 and  $-3$ ?



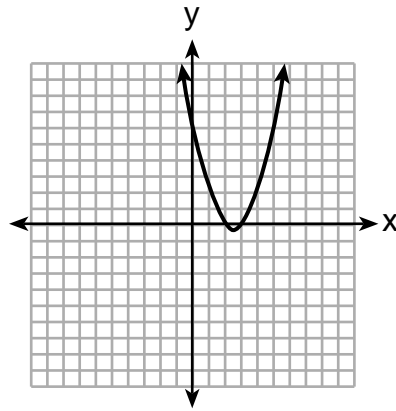
(1)



(3)



(2)



(4)

- 8 What is the constant term of the polynomial  $4d + 6 + 3d^2$ ?

(1) 6

(3) 3

(2) 2

(4) 4

- 9 Emily was given \$600 for her high school graduation. She invested it in an account that earns 2.4% interest per year. If she does *not* make any deposits or withdrawals, which expression can be used to determine the amount of money that will be in the account after 4 years?

(1)  $600(1 + 0.24)^4$

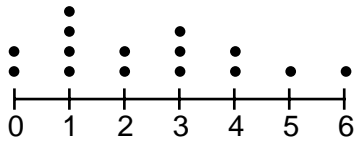
(3)  $600(1 + 0.024)^4$

(2)  $600(1 - 0.24)^4$

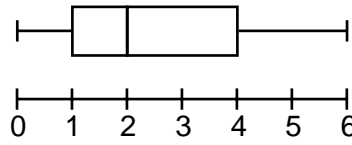
(4)  $600(1 - 0.024)^4$

Use this space for  
computations.

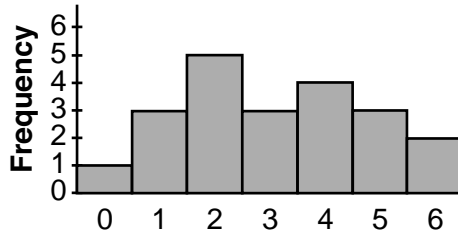
10 Different ways to represent data are shown below.



I



II



III

Which data representations have a median of 2?

- (1) I and II, only                      (3) II and III, only  
(2) I and III, only                      (4) I, II, and III

11 What would be the order of these quadratic functions when they are arranged from the narrowest graph to the widest graph?

$$f(x) = -5x^2 \quad g(x) = 0.5x^2 \quad h(x) = 3x^2$$

- (1)  $f(x), g(x), h(x)$                       (3)  $h(x), f(x), g(x)$   
(2)  $g(x), h(x), f(x)$                       (4)  $f(x), h(x), g(x)$

12 At Berkeley Central High School, a survey was conducted to see if students preferred cheeseburgers, pizza, or hot dogs for lunch. The results of this survey are shown in the table below.

	Cheeseburgers	Pizza	Hot Dogs
Females	32	44	24
Males	36	30	34

Based on this survey, what percent of the students preferred pizza?

- (1) 30                                      (3) 44  
(2) 37                                      (4) 74

Use this space for computations.

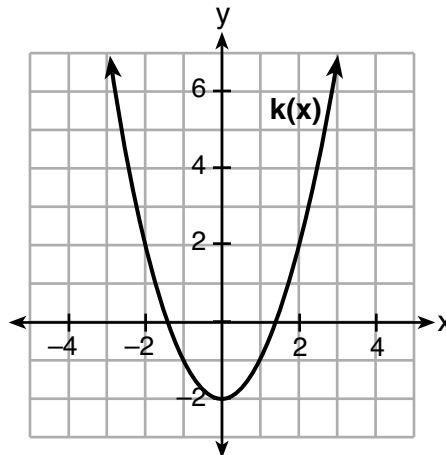
13 Which situation could be modeled by a linear function?

- (1) The value of a car depreciates by 7% annually.
- (2) A gym charges a \$50 initial fee and then \$30 monthly.
- (3) The number of bacteria in a lab doubles weekly.
- (4) The amount of money in a bank account increases by 0.1% monthly.

14 Which function has the *smallest*  $y$ -intercept value?

$x$	$g(x)$
-2	3
0	1
1	0
3	-2

(1)



(3)

$$h(x) = \sqrt{x} - 3$$

(2)

$$f(x) = x^2 + 2x - 1$$

(4)

15 When solving  $x^2 - 10x - 13 = 0$  by completing the square, which equation is a step in the process?

- (1)  $(x - 5)^2 = 38$
- (2)  $(x - 5)^2 = 12$
- (3)  $(x - 10)^2 = 38$
- (4)  $(x - 10)^2 = 12$

16 When  $3x^2 + 7x - 6 + 2x^3$  is written in standard form, the leading coefficient is

- (1) 7
- (2) 2
- (3) 3
- (4) -6

Use this space for  
computations.

17 Which of the equations below have the same solution?

I.  $10(x - 5) = -15$

II.  $4 + 2(x - 2) = 9$

III.  $\frac{1}{3}x = \frac{3}{2}$

- (1) I and II, only                      (3) II and III, only  
(2) I and III, only                    (4) I, II, and III

18 In an organism, the number of cells,  $C(d)$ , after  $d$  days can be represented by the function  $C(d) = 120 \cdot 2^{3d}$ . This function can also be expressed as

- (1)  $C(d) = 240^{3d}$                       (3)  $C(d) = 120 \cdot 6^d$   
(2)  $C(d) = 960 \cdot 2^d$                     (4)  $C(d) = 120 \cdot 8^d$

19 In the process of solving the equation  $10x^2 - 12x - 16x = 6$ , George wrote  $2(5x^2 - 14x) = 2(3)$ , followed by  $5x^2 - 14x = 3$ . Which properties justify George's process?

- A. addition property of equality  
B. division property of equality  
C. commutative property of addition  
D. distributive property

- (1) A and C                              (3) D and C  
(2) A and B                              (4) D and B

20 A sequence is defined recursively by

$$a_1 = -2$$
$$a_n = 3a_{n-1} + 1$$

What is the value of  $a_4$ ?

- (1)  $-41$                                   (3)  $22$   
(2)  $-14$                                   (4)  $67$

Use this space for  
computations.

- 21 A swimmer set a world record in the women's 1500-meter freestyle, finishing the race in 15.42 minutes. If 1 meter is approximately 3.281 feet, which set of calculations could be used to convert her speed to miles per hour?

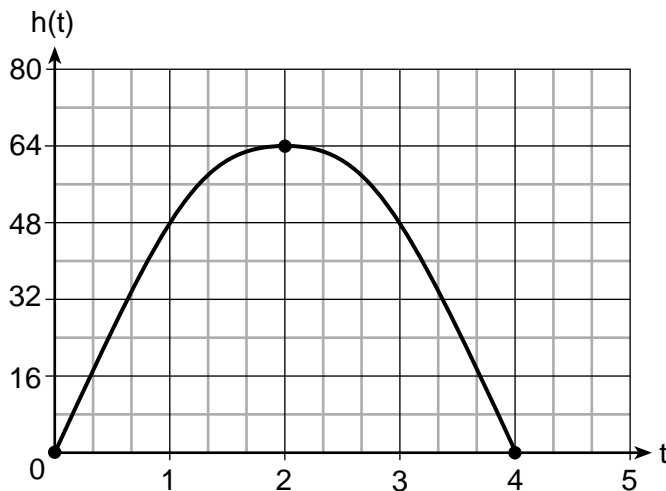
(1)  $\frac{1500 \text{ meters}}{15.42 \text{ min}} \cdot \frac{60 \text{ min}}{1 \text{ hour}} \cdot \frac{1 \text{ meter}}{3.281 \text{ feet}} \cdot \frac{1 \text{ mile}}{5280 \text{ feet}}$

(2)  $\frac{1500 \text{ meters}}{15.42 \text{ min}} \cdot \frac{60 \text{ min}}{1 \text{ hour}} \cdot \frac{3.281 \text{ feet}}{1 \text{ meter}} \cdot \frac{1 \text{ mile}}{5280 \text{ feet}}$

(3)  $\frac{1500 \text{ meters}}{15.42 \text{ min}} \cdot \frac{3.281 \text{ feet}}{1 \text{ meter}} \cdot \frac{1 \text{ mile}}{5280 \text{ feet}}$

(4)  $\frac{1500 \text{ meters}}{15.42 \text{ min}} \cdot \frac{60 \text{ min}}{1 \text{ hour}} \cdot \frac{1 \text{ mile}}{5280 \text{ feet}}$

- 22 The diagram below shows the graph of  $h(t)$ , which models the height, in feet, of a rocket  $t$  seconds after it was shot into the air.



The domain of  $h(t)$  is

- (1)  $(0, 4)$                       (3)  $(0, 64)$   
(2)  $[0, 4]$                       (4)  $[0, 64]$

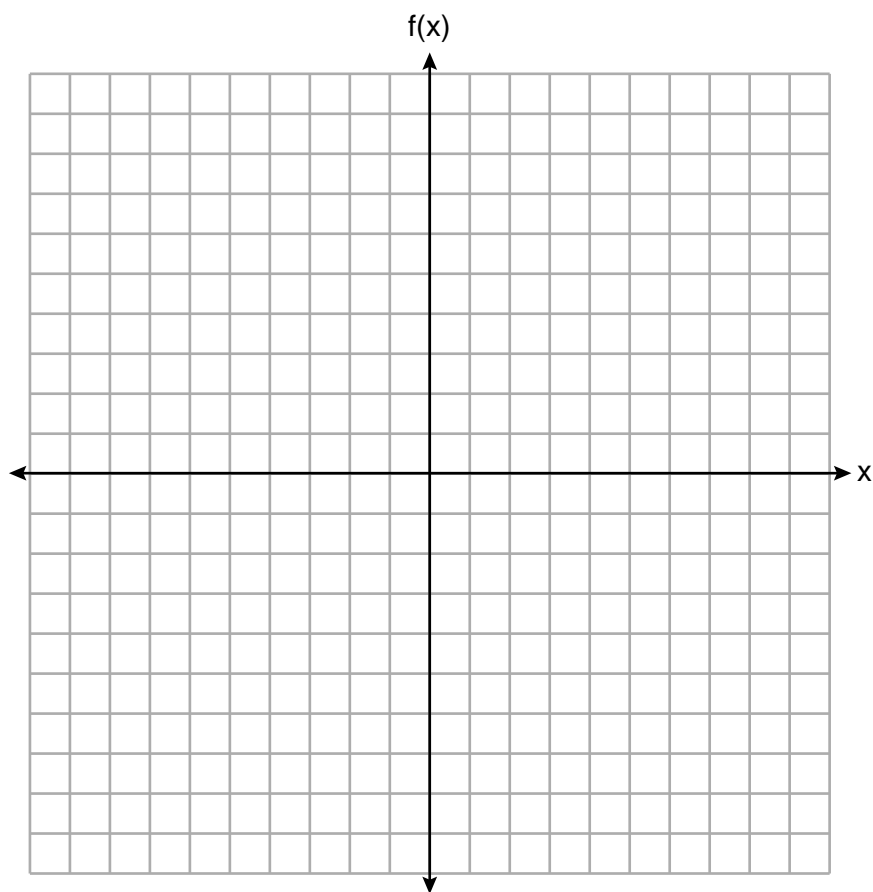




## Part II

Answer all 8 questions in this part. Each correct answer will receive 2 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [16]

25 Graph  $f(x) = |x + 1|$  on the set of axes below.



**26** The table below shows the value of a particular car over time.

<b>Time (years)</b>	<b>Value (dollars)</b>
0	20,000
5	10,550
10	5570
15	2940
20	1550

Determine whether a linear or exponential function is more appropriate for modeling this data. Explain your choice.

**27** Is the product of  $\sqrt{8}$  and  $\sqrt{98}$  rational or irrational? Justify your answer.

**28** The ages of the last 16 United States presidents on their first inauguration day are shown in the table below.

51	54	51	60
62	43	55	56
61	52	69	64
46	54	47	70

Determine the interquartile range for this set of data.

**29** The cost of one pound of grapes,  $g$ , is 15 cents more than one pound of apples,  $a$ .  
The cost of one pound of bananas,  $b$ , is twice as much as one pound of grapes.

Write an equation that represents the cost of one pound of bananas in terms of the cost of one pound of apples.

**30** A student is given the functions  $f(x) = (x + 1)^2$  and  $g(x) = (x + 3)^2$ .

Describe the transformation that maps  $f(x)$  onto  $g(x)$ .

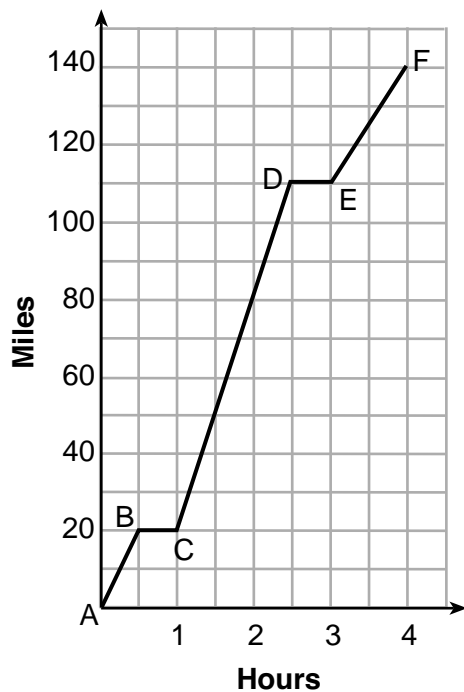
**31** Solve  $3x^2 - 5x - 7 = 0$  algebraically for all values of  $x$ , rounding to the *nearest tenth*.

**32** Factor completely:  $3y^2 - 12y - 288$

### Part III

Answer all 4 questions in this part. Each correct answer will receive 4 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [16]

33 Thomas took a 140-mile bus trip to visit his grandparents. His trip is outlined on the graph below.



Explain what might have happened in the interval between  $D$  and  $E$ .

State the interval in which the bus traveled the fastest.

State how many miles per hour the bus was traveling during this interval.

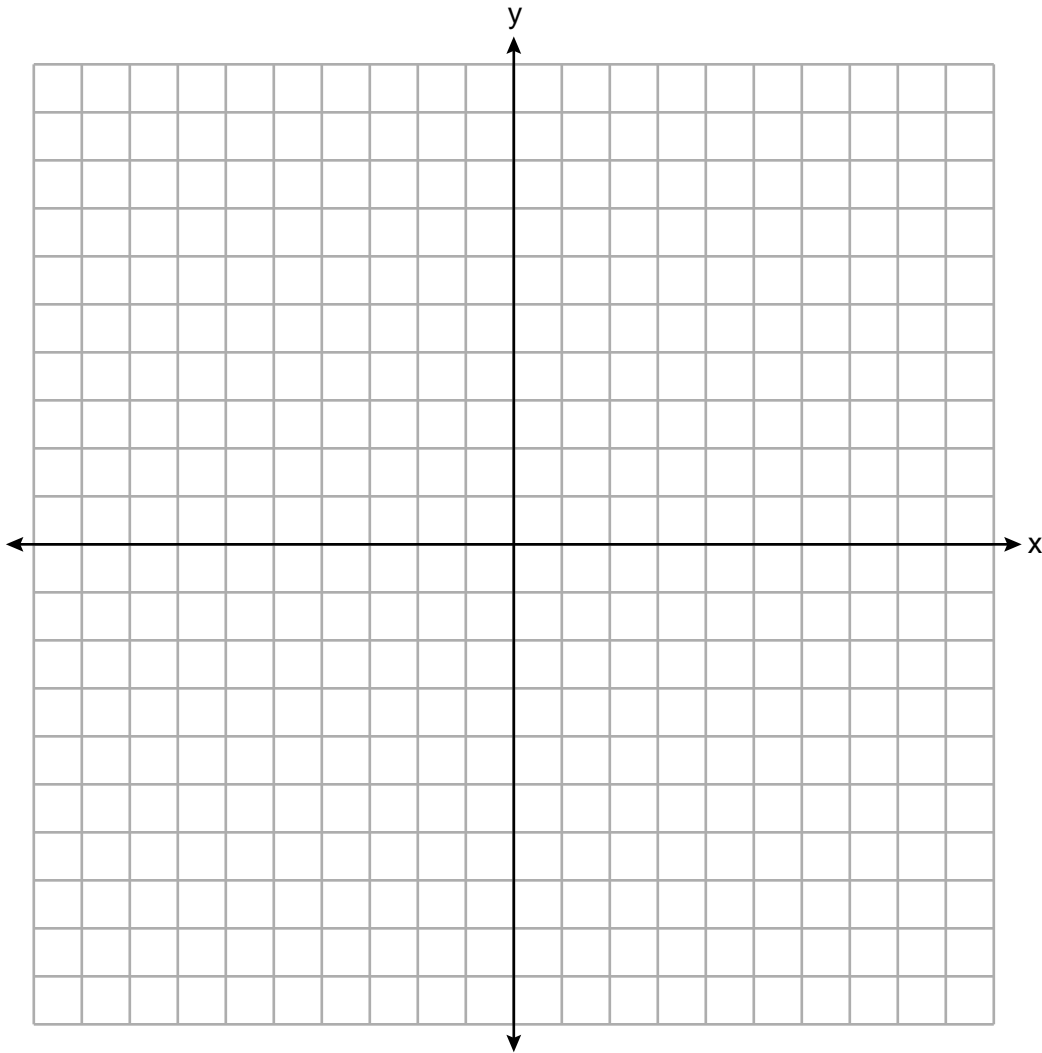
What was the average rate of speed, in miles per hour, for Thomas's entire bus trip?



34 Graph  $f(x)$  and  $g(x)$  on the set of axes below.

$$f(x) = x^2 - 4x + 3$$

$$g(x) = \frac{1}{2}x + 1$$



Based on your graph, state *one* value of  $x$  that satisfies  $f(x) = g(x)$ . Explain your reasoning.

**35** A store sells grapes for \$1.99 per pound, strawberries for \$2.50 per pound, and pineapples for \$2.99 each. Jonathan has \$25 to buy fruit.

He plans to buy 2 more pounds of strawberries than grapes. He also plans to buy 2 pineapples.

If  $x$  represents the number of pounds of grapes, write an inequality in one variable that models this scenario.

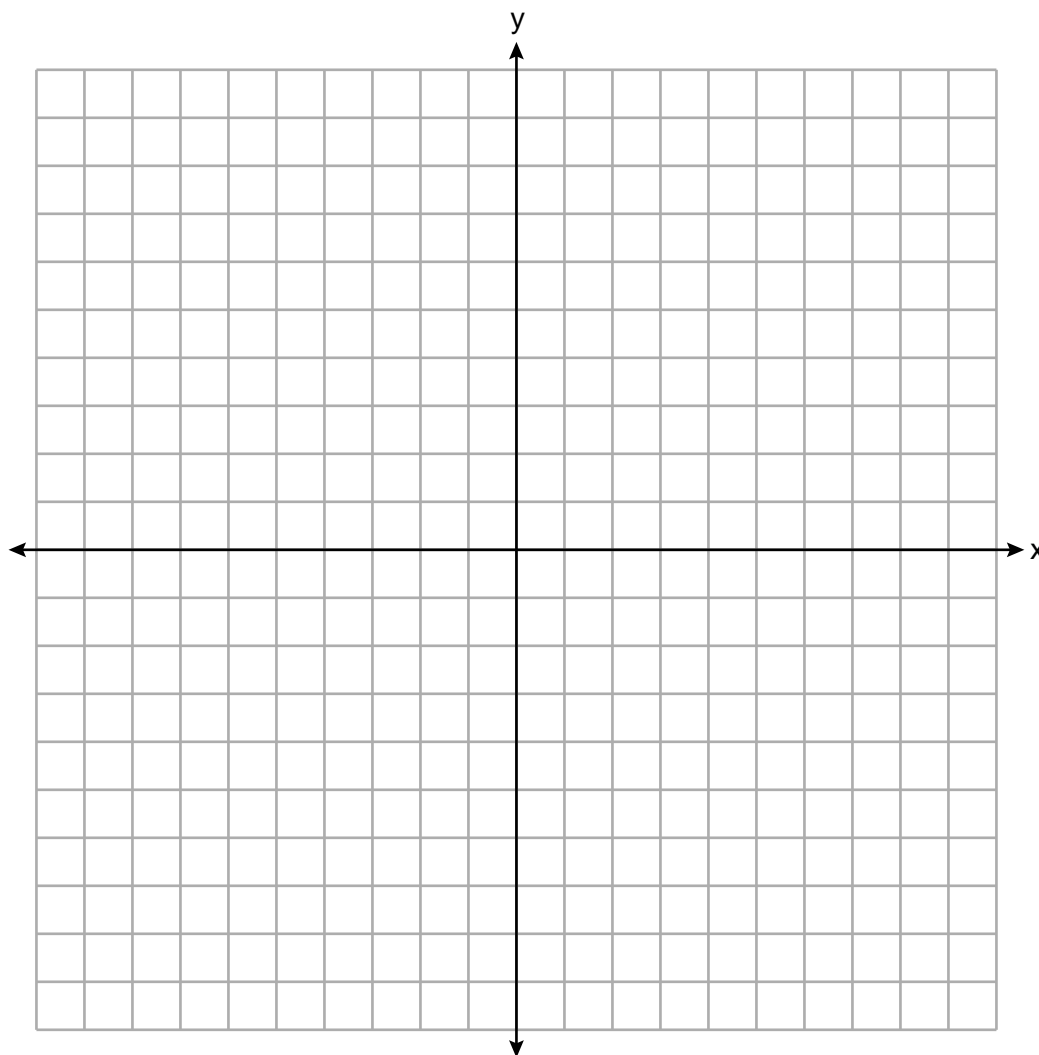
Determine algebraically the maximum number of whole pounds of grapes he can buy.

**36** Solve the system of inequalities graphically on the set of axes below.

Label the solution set  $S$ .

$$y + 3x < 5$$

$$1 \geq 2x - y$$



Is the point  $(-5,0)$  in the solution set? Explain your answer.

## Part IV

Answer the question in this part. A correct answer will receive 6 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided to determine your answer. Note that diagrams are not necessarily drawn to scale. A correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [6]

**37** An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

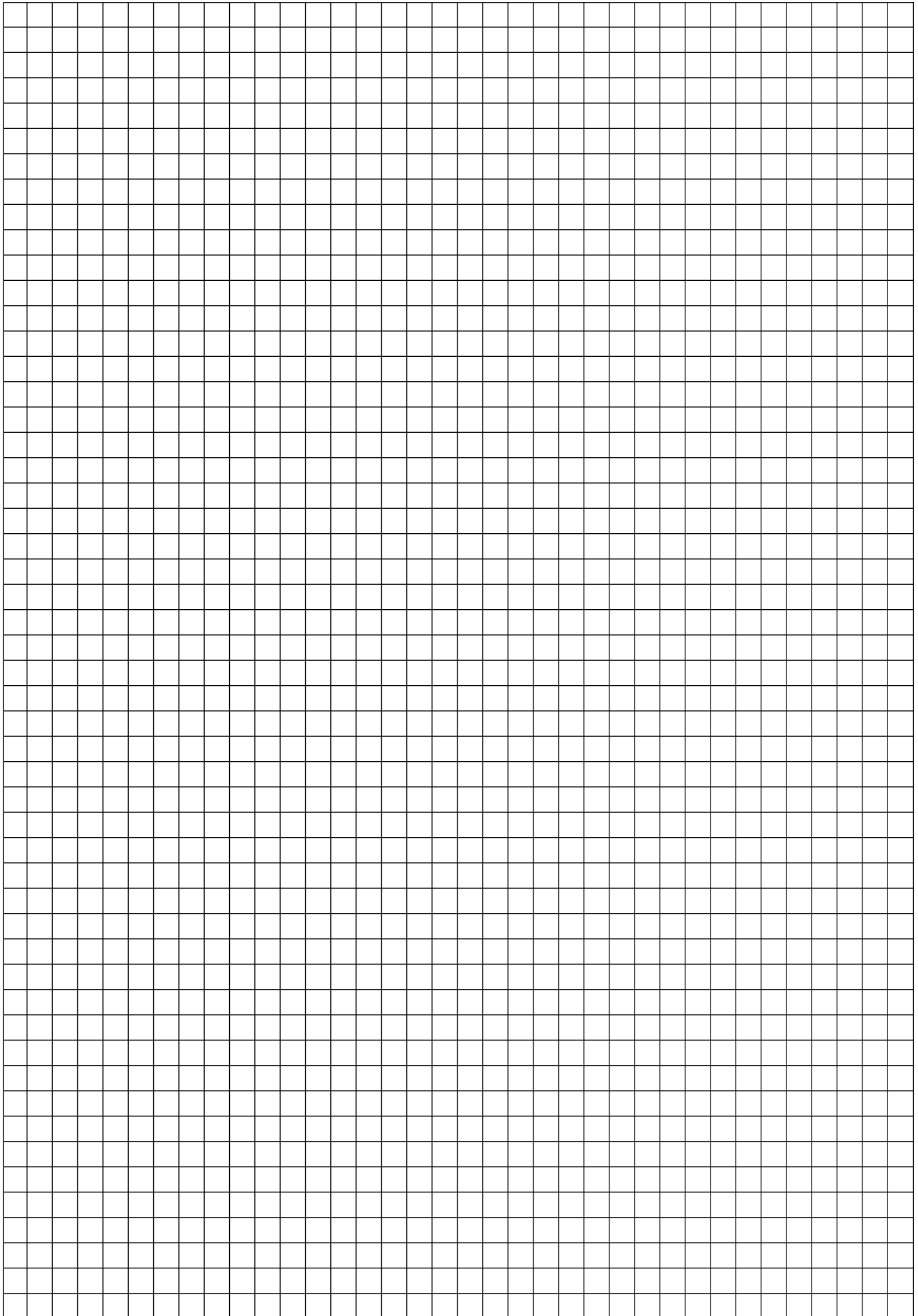
Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

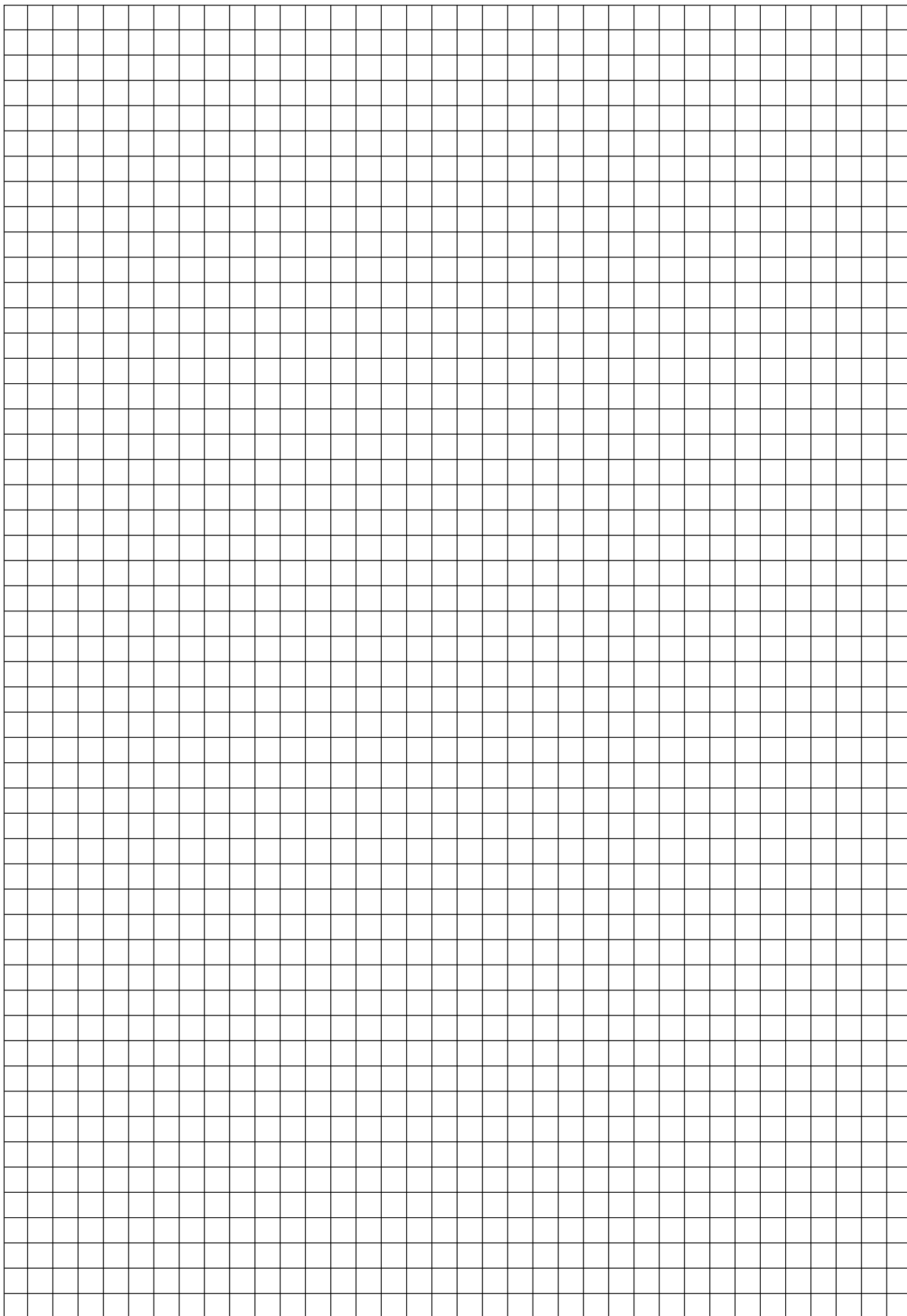
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## High School Math Reference Sheet

1 inch = 2.54 centimeters	1 kilometer = 0.62 mile	1 cup = 8 fluid ounces
1 meter = 39.37 inches	1 pound = 16 ounces	1 pint = 2 cups
1 mile = 5280 feet	1 pound = 0.454 kilogram	1 quart = 2 pints
1 mile = 1760 yards	1 kilogram = 2.2 pounds	1 gallon = 4 quarts
1 mile = 1.609 kilometers	1 ton = 2000 pounds	1 gallon = 3.785 liters
		1 liter = 0.264 gallon
		1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d$ or $C = 2\pi r$
General Prisms	$V = Bh$
Cylinder	$V = \pi r^2 h$
Sphere	$V = \frac{4}{3}\pi r^3$
Cone	$V = \frac{1}{3}\pi r^2 h$
Pyramid	$V = \frac{1}{3}Bh$

Pythagorean Theorem	$a^2 + b^2 = c^2$
Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Arithmetic Sequence	$a_n = a_1 + (n - 1)d$
Geometric Sequence	$a_n = a_1 r^{n-1}$
Geometric Series	$S_n = \frac{a_1 - a_1 r^n}{1 - r}$ where $r \neq 1$
Radians	1 radian = $\frac{180}{\pi}$ degrees
Degrees	1 degree = $\frac{\pi}{180}$ radians
Exponential Growth/Decay	$A = A_0 e^{k(t-t_0)} + B_0$

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# ALGEBRA I

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ALGEBRA I



**Regents Examination in Algebra I – August 2022**

**Scoring Key: Part I (Multiple-Choice Questions)**

Examination	Date	Question Number	Scoring Key	Question Type	Credit	Weight
Algebra I	August '22	1	3	MC	2	1
Algebra I	August '22	2	1	MC	2	1
Algebra I	August '22	3	3	MC	2	1
Algebra I	August '22	4	4	MC	2	1
Algebra I	August '22	5	4	MC	2	1
Algebra I	August '22	6	3	MC	2	1
Algebra I	August '22	7	3	MC	2	1
Algebra I	August '22	8	1	MC	2	1
Algebra I	August '22	9	3	MC	2	1
Algebra I	August '22	10	1	MC	2	1
Algebra I	August '22	11	4	MC	2	1
Algebra I	August '22	12	2	MC	2	1
Algebra I	August '22	13	2	MC	2	1
Algebra I	August '22	14	2	MC	2	1
Algebra I	August '22	15	1	MC	2	1
Algebra I	August '22	16	2	MC	2	1
Algebra I	August '22	17	3	MC	2	1
Algebra I	August '22	18	4	MC	2	1
Algebra I	August '22	19	4	MC	2	1
Algebra I	August '22	20	1	MC	2	1
Algebra I	August '22	21	2	MC	2	1
Algebra I	August '22	22	2	MC	2	1
Algebra I	August '22	23	1	MC	2	1
Algebra I	August '22	24	4	MC	2	1

**Regents Examination in Algebra I – August 2022**

**Scoring Key: Parts II, III, and IV (Constructed-Response Questions)**

Examination	Date	Question Number	Scoring Key	Question Type	Credit	Weight
Algebra I	August '22	25	-	CR	2	1
Algebra I	August '22	26	-	CR	2	1
Algebra I	August '22	27	-	CR	2	1
Algebra I	August '22	28	-	CR	2	1
Algebra I	August '22	29	-	CR	2	1
Algebra I	August '22	30	-	CR	2	1
Algebra I	August '22	31	-	CR	2	1
Algebra I	August '22	32	-	CR	2	1
Algebra I	August '22	33	-	CR	4	1
Algebra I	August '22	34	-	CR	4	1
Algebra I	August '22	35	-	CR	4	1
Algebra I	August '22	36	-	CR	4	1
Algebra I	August '22	37	-	CR	6	1

Key
MC = Multiple-choice question
CR = Constructed-response question

The chart for determining students' final examination scores for the **August 2022 Regents Examination in Algebra I** will be posted on the Department's web site at: <https://www.nysedregents.org/algebraone/> on the day of the examination. Conversion charts provided for the previous administrations of the Regents Examination in Algebra I must NOT be used to determine students' final scores for this administration.

# FOR TEACHERS ONLY

The University of the State of New York  
REGENTS HIGH SCHOOL EXAMINATION

## ALGEBRA I

Tuesday, August 16, 2022 — 8:30 to 11:30 a.m., only

### RATING GUIDE

Updated information regarding the rating of this examination may be posted on the New York State Education Department's web site during the rating period. Check this web site at: <http://www.nysed.gov/state-assessment/high-school-regents-examinations> and select the link "Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents Examination period.

The Department is providing supplemental scoring guidance, the "Model Response Set," for the Regents Examination in Algebra I. This guidance is intended to be part of the scorer training. Schools are encouraged to incorporate the Model Response Sets into the scorer training or to use them as additional information during scoring. While not reflective of all scenarios, the model responses selected for the Model Response Set illustrate how less common student responses to constructed-response questions may be scored. The Model Response Set will be available on the Department's web site at <http://www.nysedregents.org/algebraone/>.

## Mechanics of Rating

The following procedures are to be followed for scoring student answer papers for the Regents Examination in Algebra I. More detailed information about scoring is provided in the publication *Information Booklet for Scoring the Regents Examination in Algebra I*.

Do *not* attempt to correct the student's work by making insertions or changes of any kind. In scoring the constructed-response questions, use check marks to indicate student errors. Unless otherwise specified, mathematically correct variations in the answers will be allowed. Units need not be given when the wording of the questions allows such omissions.

Each student's answer paper is to be scored by a minimum of three mathematics teachers. No one teacher is to score more than approximately one-third of the constructed-response questions on a student's paper. Teachers may not score their own students' answer papers. On the student's separate answer sheet, for each question, record the number of credits earned and the teacher's assigned rater/scorer letter.

**Schools are not permitted to rescore any of the constructed-response questions on this exam after each question has been rated once, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.**

Raters should record the student's scores for all questions and the total raw score on the student's separate answer sheet. Then the student's total raw score should be converted to a scale score by using the conversion chart that will be posted on the Department's web site at: <http://www.nysed.gov/state-assessment/high-school-regents-examinations> on Tuesday, August 16, 2022. Because scale scores corresponding to raw scores in the conversion chart may change from one administration to another, it is crucial that, for each administration, the conversion chart provided for that administration be used to determine the student's final score. The student's scale score should be entered in the box provided on the student's separate answer sheet. The scale score is the student's final examination score.

# General Rules for Applying Mathematics Rubrics

## I. General Principles for Rating

The rubrics for the constructed-response questions on the Regents Examination in Algebra I are designed to provide a systematic, consistent method for awarding credit. The rubrics are not to be considered all-inclusive; it is impossible to anticipate all the different methods that students might use to solve a given problem. Each response must be rated carefully using the teacher's professional judgment and knowledge of mathematics; all calculations must be checked. The specific rubrics for each question must be applied consistently to all responses. In cases that are not specifically addressed in the rubrics, raters must follow the general rating guidelines in the publication *Information Booklet for Scoring the Regents Examination in Algebra I*, use their own professional judgment, confer with other mathematics teachers, and/or contact the State Education Department for guidance. During each Regents Examination administration period, rating questions may be referred directly to the Education Department. The contact numbers are sent to all schools before each administration period.

## II. Full-Credit Responses

A full-credit response provides a complete and correct answer to all parts of the question. Sufficient work is shown to enable the rater to determine how the student arrived at the correct answer.

When the rubric for the full-credit response includes one or more examples of an acceptable method for solving the question (usually introduced by the phrase “such as”), it does not mean that there are no additional acceptable methods of arriving at the correct answer. Unless otherwise specified, mathematically correct alternative solutions should be awarded credit. The only exceptions are those questions that specify the type of solution that must be used; e.g., an algebraic solution or a graphic solution. A correct solution using a method other than the one specified is awarded half the credit of a correct solution using the specified method.

## III. Appropriate Work

*Full-Credit Responses:* The directions in the examination booklet for all the constructed-response questions state: “Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc.” The student has the responsibility of providing the correct answer **and** showing how that answer was obtained. The student must “construct” the response; the teacher should not have to search through a group of seemingly random calculations scribbled on the student paper to ascertain what method the student may have used.

*Responses With Errors:* Rubrics that state “Appropriate work is shown, but...” are intended to be used with solutions that show an essentially complete response to the question but contain certain types of errors, whether computational, rounding, graphing, or conceptual. If the response is incomplete; i.e., an equation is written but not solved or an equation is solved but not all of the parts of the question are answered, appropriate work has **not** been shown. Other rubrics address incomplete responses.

## IV. Multiple Errors

*Computational Errors, Graphing Errors, and Rounding Errors:* Each of these types of errors results in a 1-credit deduction. Any combination of two of these types of errors results in a 2-credit deduction. No more than 2 credits should be deducted for such mechanical errors in a 4-credit question and no more than 3 credits should be deducted in a 6-credit question. The teacher must carefully review the student's work to determine what errors were made and what type of errors they were.

*Conceptual Errors:* A conceptual error involves a more serious lack of knowledge or procedure. Examples of conceptual errors include using the incorrect formula for the area of a figure, choosing the incorrect trigonometric function, or multiplying the exponents instead of adding them when multiplying terms with exponents.

If a response shows repeated occurrences of the same conceptual error, the student should not be penalized twice. If the same conceptual error is repeated in responses to other questions, credit should be deducted in each response.

For 4- and 6-credit questions, if a response shows one conceptual error and one computational, graphing, or rounding error, the teacher must award credit that takes into account both errors. Refer to the rubric for specific scoring guidelines.

## Part II

For each question, use the specific criteria to award a maximum of 2 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(25) **[2]** A correct graph is drawn.

**[1]** Appropriate work is shown, but one graphing error is made.

*or*

**[1]** Appropriate work is shown, but one conceptual error is made.

**[0]** The line  $f(x) = x + 1$  is graphed.

*or*

**[0]** A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(26) **[2]** Exponential, and a correct explanation is written.

**[1]** Appropriate work is shown, but one conceptual error is made.

*or*

**[1]** Exponential, but an incomplete explanation is written.

**[0]** Exponential, but the explanation is missing or incorrect.

*or*

**[0]** A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(27) **[2]** Rational, and a correct justification is given.

**[1]** Appropriate work is shown, but one computational error is made.

*or*

**[1]** Appropriate work is shown, but one conceptual error is made.

*or*

**[1]** Appropriate work is shown to find 28, but rational is not stated.

**[0]** Rational, but no justification is given.

*or*

**[0]** A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(28) [2] 10.5, and correct work is shown.

[1] Appropriate work is shown, but one computational error is made.

*or*

[1] Appropriate work is shown, but one conceptual error is made.

*or*

[1] 10.5, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(29) [2]  $b = 2(a + 15)$  or an equivalent equation, and correct work is shown.

[1] Appropriate work is shown, but one computational error is made.

*or*

[1] Appropriate work is shown, but one conceptual error is made.

*or*

[1] Appropriate work is shown, but the solution is written as an expression.

*or*

[1]  $g = a + 15$  and  $b = 2g$ , but no further correct work is shown.

*or*

[1]  $b = 2(a + 15)$ , but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(30) [2] A shift of 2 to the left is stated.

[1] One computational error is made.

*or*

[1] One conceptual error is made.

*or*

[1] An incomplete description is written.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(31) **[2]**  $-0.9$  and  $2.6$ , and correct algebraic work is shown.

**[1]** Appropriate work is shown, but one computational or rounding error is made.

**or**

**[1]** Appropriate work is shown, but one conceptual error is made.

**or**

**[1]** Appropriate work is shown, but only one solution is found.

**or**

**[1]**  $-0.9$  and  $2.6$ , but a method other than algebraic is used.

**or**

**[1]** Appropriate work is shown to find  $x = \frac{5 \pm \sqrt{109}}{6}$ , but no further correct work is shown.

**or**

**[1]**  $-0.9$  and  $2.6$ , but no work is shown.

**[0]** A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(32) **[2]**  $3(y - 12)(y + 8)$ , and correct work is shown.

**[1]** Appropriate work is shown, but one computational or factoring error is made.

**or**

**[1]** Appropriate work is shown, but one conceptual error is made.

**or**

**[1]**  $3(y - 12)(y + 8)$ , but no work is shown.

**[0]** A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

---

### Part III

For each question, use the specific criteria to award a maximum of 4 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(33) [4] A correct explanation is written,  $C$  to  $D$ , 60, and 35.

[3] Appropriate work is shown, but one computational error is made.

*or*

[3] Appropriate work is shown, but the explanation is missing or incorrect.

[2] Both 60 and 35 are stated, but no further correct work is shown.

[1]  $C$  to  $D$ , but no further correct work is shown.

*or*

[1] Either 60 or 35 is stated, but no further correct work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.



- (34) [4] A correct graph is drawn, 4 or 0.5 is stated, and a correct explanation is written.
- [3] Appropriate work is shown, but one graphing error is made.
- or**
- [3] Appropriate work is shown, but the explanation is missing or incorrect.
- or**
- [3] Appropriate work is shown, but the solution is missing or incorrect.
- [2] Appropriate work is shown, but two or more graphing errors are made.
- or**
- [2] Both functions are graphed correctly, but no further correct work is shown.
- [1] Either  $f(x)$  or  $g(x)$  is graphed correctly, but no further correct work is shown.
- or**
- [1] Appropriate algebraic work is shown to find 4 or 0.5, but no further correct work is shown.
- or**
- [1] A correct explanation is written, but no further correct work is shown.
- or**
- [1] Either 4 or 0.5, but no work is shown.
- [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(35) [4]  $2(2.99) + 1.99x + 2.50(x + 2) \leq 25$  or an equivalent inequality in one variable is written, 3, and correct algebraic work is shown.

[3] Appropriate work is shown, but one computational or rounding error is made.

*or*

[3] The inequality is written incorrectly, but solved appropriately.

*or*

[3]  $2(2.99) + 1.99x + 2.50(x + 2) = 25$  is written and solved appropriately.

[2] A correct inequality is written, but no further correct work is shown.

[1] A correct inequality in more than one variable is written, but no further correct work is shown.

*or*

[1] 3, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

(36) [4] Both inequalities are graphed correctly, and at least one is labeled, the solution is labeled  $S$ , and a correct explanation indicating a positive response is written.

[3] Appropriate work is shown, but one computational, graphing, or labeling error is made.

***or***

[3] Appropriate work is shown, but the solution is not labeled  $S$ .

***or***

[3] Appropriate work is shown, but the explanation is missing or incorrect.

***or***

[3] One inequality is graphed incorrectly, but the system is used appropriately.

[2] Appropriate work is shown, but two or more computational, graphing, or labeling errors are made.

***or***

[2] Both inequalities are graphed correctly and at least one is labeled, but no further correct work is shown.

[1] A correct explanation is written, but no further correct work is shown.

***or***

[1] One inequality is graphed and labeled correctly, but no further correct work is shown.

***or***

[1]  $y + 3x = 5$  and  $1 = 2x - y$  are graphed correctly and at least one is labeled, but no further correct work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

---

## Part IV

For this question, use the specific criteria to award a maximum of 6 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(37) [6]  $30x + 50y = 420$  and  $15x + 35y = 270$ , a correct justification indicating a negative response is given,  $x = 4$  and  $y = 6$ , and correct algebraic work is shown.

[5] Appropriate work is shown, but one computational error is made.

*or*

[5] Appropriate work is shown, but only one cost is found.

*or*

[5] Appropriate work is shown, but a method other than algebraic is used to find  $x = 4$  and  $y = 6$ .

*or*

[5] Only one equation is written correctly, but the system is used appropriately.

[4] Appropriate work is shown, but the justification is missing or incorrect.

*or*

[4] A correct system of equations is written, and a correct justification indicating a negative response is given.

[3] A correct system of equations is written, and  $x = 4$  and  $y = 6$  are stated, but no further correct work is shown.

[2] A correct system of equations is written, but no further correct work is shown.

*or*

[2] A correct justification indicating a negative response is given, but no further correct work is shown.

[1] One correct equation is written, but no further correct work is shown.

*or*

[1]  $x = 4$  and  $y = 6$  are stated, but no further correct work is shown.

[0] 4 and 6, but no work is shown.

*or*

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

---

**Map to the Learning Standards  
Algebra I  
August 2022**

<b>Question</b>	<b>Type</b>	<b>Credits</b>	<b>Cluster</b>
1	Multiple Choice	2	F-IF.A
2	Multiple Choice	2	F-IF.A
3	Multiple Choice	2	A-SSE.A
4	Multiple Choice	2	F-IF.A
5	Multiple Choice	2	A-REI.D
6	Multiple Choice	2	A-APR.A
7	Multiple Choice	2	A-APR.B
8	Multiple Choice	2	A-SSE.A
9	Multiple Choice	2	F-BF.A
10	Multiple Choice	2	S-ID.A
11	Multiple Choice	2	F-IF.B
12	Multiple Choice	2	S-ID.B
13	Multiple Choice	2	F-LE.A
14	Multiple Choice	2	F-IF.C
15	Multiple Choice	2	A-REI.B
16	Multiple Choice	2	A-SSE.A
17	Multiple Choice	2	A-REI.B
18	Multiple Choice	2	A-SSE.B
19	Multiple Choice	2	A-REI.A
20	Multiple Choice	2	F-IF.A

21	Multiple Choice	2	N-Q.A
22	Multiple Choice	2	F-IF.B
23	Multiple Choice	2	S-ID.C
24	Multiple Choice	2	A-CED.A
25	Constructed Response	2	F-IF.C
26	Constructed Response	2	F-LE.A
27	Constructed Response	2	N-RN.B
28	Constructed Response	2	S-ID.A
29	Constructed Response	2	A-CED.A
30	Constructed Response	2	F-BF.B
31	Constructed Response	2	A-REI.B
32	Constructed Response	2	A-SSE.A
33	Constructed Response	4	F-IF.B
34	Constructed Response	4	A-REI.D
35	Constructed Response	4	A-CED.A
36	Constructed Response	4	A-REI.D
37	Constructed Response	6	A-CED.A

# Regents Examination in Algebra I

August 2022

## Chart for Converting Total Test Raw Scores to Final Examination Scores (Scale Scores)

The *Chart for Determining the Final Examination Score for the August 2022 Regents Examination in Algebra I* will be posted on the Department's web site at: <http://www.nysed.gov/state-assessment/high-school-regents-examinations> by Tuesday, August 16, 2022. Conversion charts provided for previous administrations of the Regents Examination in Algebra I must NOT be used to determine students' final scores for this administration.

### Online Submission of Teacher Evaluations of the Test to the Department

Suggestions and feedback from teachers provide an important contribution to the test development process. The Department provides an online evaluation form for State assessments. It contains spaces for teachers to respond to several specific questions and to make suggestions. Instructions for completing the evaluation form are as follows:

1. Go to <http://www.nysed.gov/state-assessment/teacher-feedback-state-assessments>.
2. Select the test title.
3. Complete the required demographic fields.
4. Complete each evaluation question and provide comments in the space provided.
5. Click the SUBMIT button at the bottom of the page to submit the completed form.

The University of the State of New York  
REGENTS HIGH SCHOOL EXAMINATION

# ALGEBRA I

Tuesday, August 16, 2022 — 8:30 to 11:30 a.m.

## MODEL RESPONSE SET

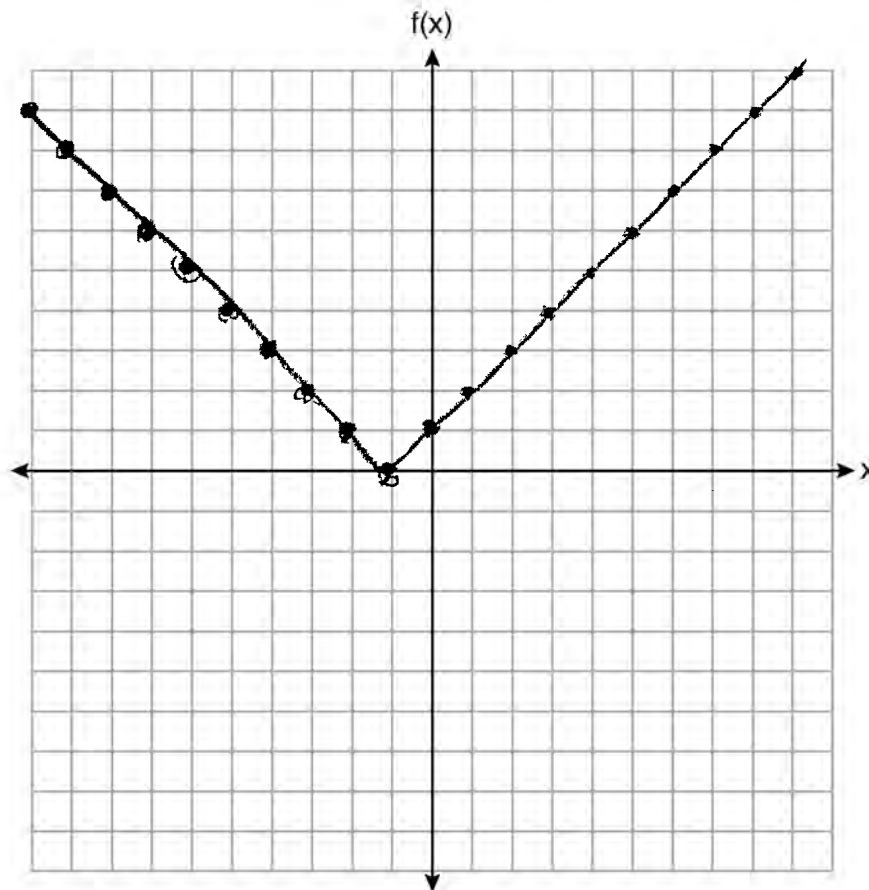
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Question 25

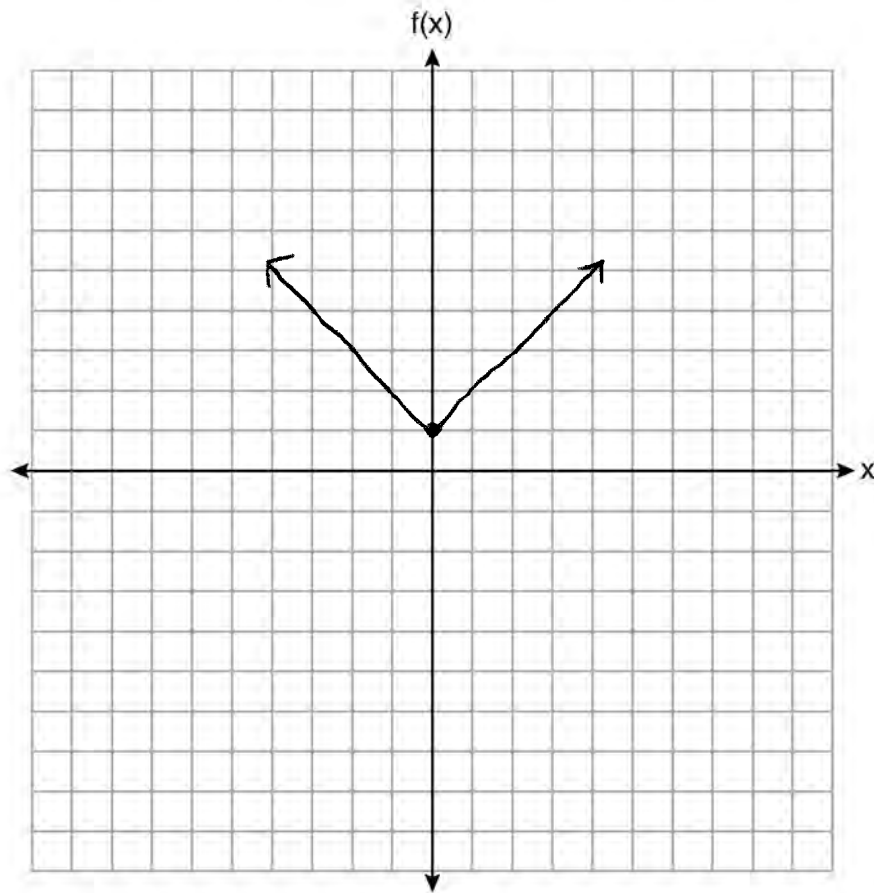
25 Graph  $f(x) = |x + 1|$  on the set of axes below.



**Score 2:** The student gave a complete and correct response.

**Question 25**

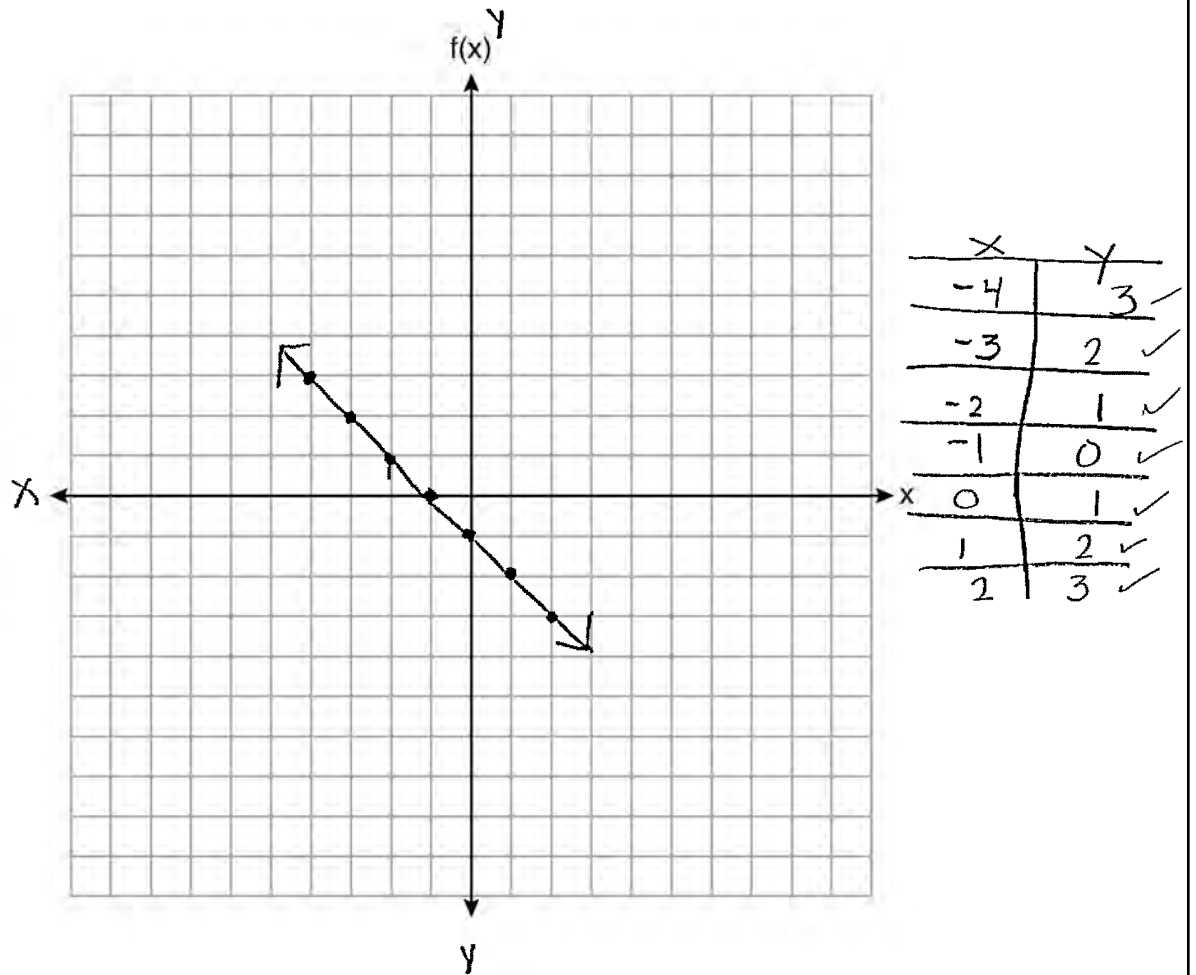
**25** Graph  $f(x) = |x + 1|$  on the set of axes below.



**Score 1:** The student graphed  $f(x) = |x| + 1$  correctly.

Question 25

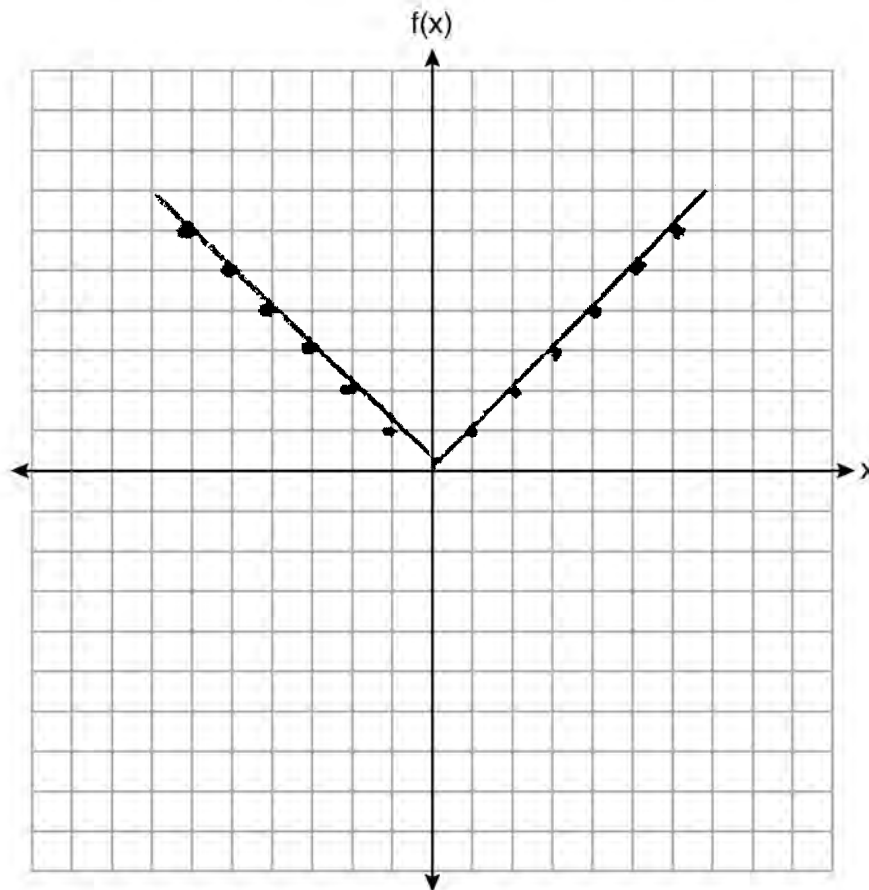
25 Graph  $f(x) = |x + 1|$  on the set of axes below.



**Score 1:** The student wrote the correct table of values, but did not graph them correctly.

Question 25

25 Graph  $f(x) = |x + 1|$  on the set of axes below.



**Score 0:** The student graphed  $f(x) = |x|$  and did not use the full extent of the graph.

Question 26

26 The table below shows the value of a particular car over time.

Time (years)	Value (dollars)
0	20,000
5	10,550
10	5570
15	2940
20	1550

~~10,450~~  
4525 - 9,450  
-4980

Determine whether a linear or exponential function is more appropriate for modeling this data. Explain your choice.

An exponential function would be more appropriate because there is no constant rate of change.

**Score 2:** The student gave a complete and correct response.

**Question 26**

26 The table below shows the value of a particular car over time.

Time (years)	Value (dollars)
0	20,000
5	10,550
10	5570
15	2940
20	1550

Determine whether a linear or exponential function is more appropriate for modeling this data. Explain your choice.

Exponential because there isn't a constant rate of change.

**Score 2:** The student gave a complete and correct response.

**Question 26**

**26** The table below shows the value of a particular car over time.

Time (years)	Value (dollars)
0	20,000
5	10,550
10	5570
15	2940
20	1550

Handwritten annotations to the right of the table:

- Between 0 and 5 years:  $-9450$
- Between 5 and 10 years:  $-4980$
- Between 10 and 15 years:  $-2630$
- Between 15 and 20 years:  $-1390$

Determine whether a linear or exponential function is more appropriate for modeling this data. Explain your choice.

Linear function because there isn't a constant rate of change.

**Score 1:** The student confused linear and exponential function.

**Question 26**

26 The table below shows the value of a particular car over time.

Time (years)	Value (dollars)
0	20,000
5	10,550
10	5570
15	2940
20	1550

Determine whether a linear or exponential function is more appropriate for modeling this data. Explain your choice.

$$y = ax + b$$

$$a = -890.2$$

$$b = 17024$$

$$r \approx -0.94$$

The function is linear because the  $r$  value is close to  $-1$ .

**Score 1:** The student assumed the function was linear and performed a correct regression.



**Question 26**

**26** The table below shows the value of a particular car over time.

<b>Time</b> (years)	<b>Value</b> (dollars)
0	20,000
5	10,550
10	5570
15	2940
20	1550

Determine whether a linear or exponential function is more appropriate for modeling this data. Explain your choice.

linear because there is a constant decay

**Score 0:** The student did not show enough correct work to receive any credit.

Question 27

27 Is the product of  $\sqrt{8}$  and  $\sqrt{98}$  rational or irrational? Justify your answer.

$$\sqrt{784}$$

$$28$$

**Score 2:** The student gave a complete and correct response.

Question 27

27 Is the product of  $\sqrt{8}$  and  $\sqrt{98}$  rational or irrational? Justify your answer.

$$\begin{array}{c|c} 4^2 & 7^2 \\ \textcircled{2}^2 & \textcircled{7}^2 \\ 2\sqrt{2} & 7\sqrt{2} \end{array}$$

$$2\sqrt{2} + 7\sqrt{2}$$



$$9\sqrt{2}$$

↑  
irrational  
because 9 times  
the square root  
of 2 is irrational

**Score 1:** The student correctly justified that the sum of  $\sqrt{8}$  and  $\sqrt{98}$  was irrational.

Question 27

27 Is the product of  $\sqrt{8}$  and  $\sqrt{98}$  rational or irrational? Justify your answer.

$$2\sqrt{2} + 7\sqrt{2}$$

$$9\sqrt{2} \sqrt{2}$$

$$9(4) = 36$$

**Score 0:** The student made multiple errors.

Question 27

27 Is the product of  $\sqrt{8}$  and  $\sqrt{98}$  rational or irrational? Justify your answer.

$$\sqrt{8}$$

$$\sqrt{98}$$

$$2\sqrt{4}$$

$$7\sqrt{2}$$

$$2\sqrt{2}$$

$$7\sqrt{2}$$

**Score 0:** The student did not show enough correct work to receive any credit.

Question 28

28 The ages of the last 16 United States presidents on their first inauguration day are shown in the table below.

<del>51</del>	<del>54</del>	<del>51</del>	<del>60</del>
<del>62</del>	<del>43</del>	<del>55</del>	<del>56</del>
<del>61</del>	<del>52</del>	<del>62</del>	<del>64</del>
<del>46</del>	<del>54</del>	<del>47</del>	<del>70</del>

Determine the interquartile range for this set of data.

~~46, 47, 51, 51, 52, 54, 54, 56, 60, 61, 62, 64, 64, 70.~~  
51  
Q1  
54.5  
61.5  
Q3

Min: 43  
Max: 70  
Med: 54.5  
Q1: 51  
Q3: 61.5  
IQR: 10.5

IQR: 10.5

Score 2: The student gave a complete and correct response.

**Question 28**

28 The ages of the last 16 United States presidents on their first inauguration day are shown in the table below.

51	54	51	60
62	48	55	56
61	52	69	64
46	54	47	70

Determine the interquartile range for this set of data.

Handwritten student work for finding the interquartile range:

43, 46, 47, <sup>Q1</sup>51, 52, 54, 54, 55, 56, 60, 61, <sup>Q3</sup>62, 64, 69, 70

Arrows point from the circled 51 to 51 and from the circled 62 to 62.

54.5 is written below a bracket under 54 and 55.

A calculation is shown: 
$$\frac{62}{-51}$$
 with the result 11 boxed.

**Score 1:** The student made the same error in finding Q1 and Q3.

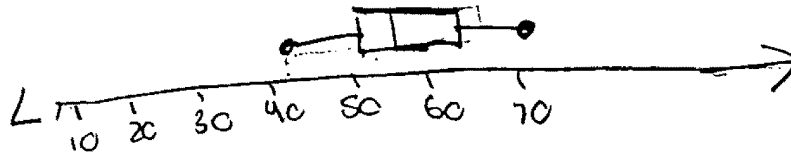
**Question 28**

**28** The ages of the last 16 United States presidents on their first inauguration day are shown in the table below.

51	54	51	60
62	43	55	56
61	52	69	64
46	54	47	70

MAX=70  
Q1=51  
Med=54.5  
Q3=61.5  
MIN=43

Determine the interquartile range for this set of data.



**Score 1:** The student stated the correct five-number summary, but did not calculate the IQR.



**Question 28**

**28** The ages of the last 16 United States presidents on their first inauguration day are shown in the table below.

51	54	51	60
62	43	55	56
61	52	69	64
46	54	47	70

Determine the interquartile range for this set of data.

43 to 70

**Score 0:** The student did not show enough work to receive any credit.

---

**Question 29**

---

- 29** The cost of one pound of grapes,  $g$ , is 15 cents more than one pound of apples,  $a$ .  
The cost of one pound of bananas,  $b$ , is twice as much as one pound of grapes.

Write an equation that represents the cost of one pound of bananas in terms of the cost of one pound of apples.

$$g = 15 + a$$
$$b = 2(15 + a)$$

**Score 2:** The student gave a complete and correct response.

---

**Question 29**

---

**29** The cost of one pound of grapes,  $g$ , is 15 cents more than one pound of apples,  $a$ .

The cost of one pound of bananas,  $b$ , is twice as much as one pound of grapes.

Write an equation that represents the cost of one pound of bananas in terms of the cost of one pound of apples.

$$g + 15 = a$$

$$2b = g$$

$$2b = a - 15$$

$$b = \frac{a - 15}{2}$$

**Score 1:** The student made the same error in writing both equations, but solved it appropriately.

---

**Question 29**

---

**29** The cost of one pound of grapes,  $g$ , is 15 cents more than one pound of apples,  $a$ .

The cost of one pound of bananas,  $b$ , is twice as much as one pound of grapes.

Write an equation that represents the cost of one pound of bananas in terms of the cost of one pound of apples.

$$b = 2g$$

**Score 0:** The student wrote  $b = 2g$  correctly, but no further correct work was shown.

**Question 30**

**30** A student is given the functions  $f(x) = (x + 1)^2$  and  $g(x) = (x + 3)^2$ .

Describe the transformation that maps  $f(x)$  onto  $g(x)$ .

You would move horizontally to the left  
2 units to bring you  $g(x)$ !

**Score 2:** The student gave a complete and correct response.

---

**Question 30**

---

**30** A student is given the functions  $f(x) = (x + 1)^2$  and  $g(x) = (x + 3)^2$ .

Describe the transformation that maps  $f(x)$  onto  $g(x)$ .

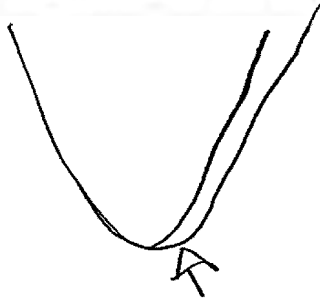
SHIFTS UP 2

**Score 1:** The student made an error in describing the transformation.

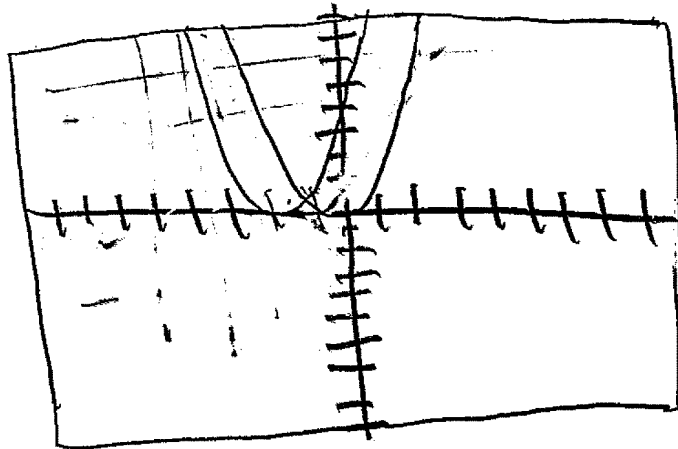
Question 30

30 A student is given the functions  $f(x) = (x + 1)^2$  and  $g(x) = (x + 3)^2$ .

Describe the transformation that maps  $f(x)$  onto  $g(x)$ .



The transformation that maps  $f(x)$  onto  $g(x)$  is more wider than  $g(x)$  is more pushed over, like this in the graph



**Score 0:** The student did not show enough correct work to receive any credit.

Question 31

31 Solve  $3x^2 - 5x - 7 = 0$  algebraically for all values of  $x$ , rounding to the *nearest tenth*.

$$3x^2 - 5x - 7 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{5 \pm \sqrt{25 - 4(3)(-7)}}{2(3)}$$

$$\begin{aligned} x &= 2.6 \\ x &= -.9 \end{aligned}$$

**Score 2:** The student gave a complete and correct response.



Question 31

31 Solve  $3x^2 - 5x - 7 = 0$  algebraically for all values of  $x$ , rounding to the nearest tenth.

$$3x^2 - 5x - 7 = 0$$

$$a = 3 \quad b = -5 \quad c = -7$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{5 \pm \sqrt{109}}{6}$$

$$b^2 - 4ac$$
$$(-5)^2 - 4(3)(-7)$$
$$= 109$$

$$\frac{5 + \sqrt{109}}{6} = 0 \quad \left| \quad \frac{5 - \sqrt{109}}{6} = 0$$

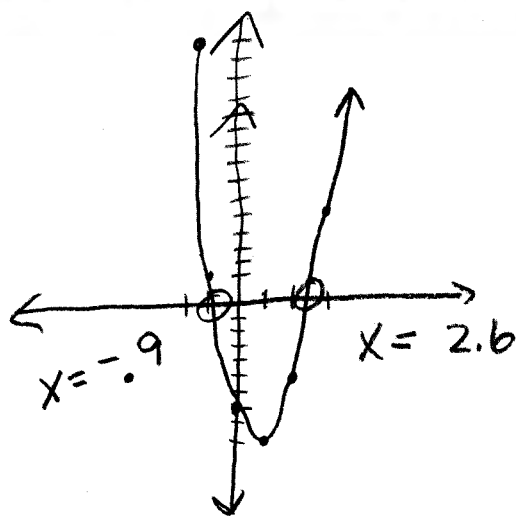
$$x = 2.57$$

$$x = -9.1$$

**Score 1:** The student rounded the solutions to the wrong decimal place.

Question 31

31 Solve  $3x^2 - 5x - 7 = 0$  algebraically for all values of  $x$ , rounding to the nearest tenth.



$x$	$y$
-2	15
-1	1
0	-7
1	-9
2	-5
3	5

**Score 1:** The student found the correct values by a method other than algebraic.

Question 31

31 Solve  $3x^2 - 5x - 7 = 0$  algebraically for all values of  $x$ , rounding to the *nearest tenth*.

$$3x^2 - 5x - 7 = 0$$

↓

$$(-1, 2.5)$$

**Score 0:** The student did not show enough correct work to receive any credit.

---

**Question 32**

---

32 Factor completely:  $3y^2 - 12y - 288$

$$3(y^2 - 4y - 96)$$

$$3(y + 8)(y - 12)$$

$$3(y + 8)(y - 12)$$

---

**Score 2:** The student gave a complete and correct response.

Question 32

32 Factor completely:  $3y^2 - 12y - 288$

$$3 \overline{3y^2 - 12y - 288}$$
$$y^2 - 4y - 96$$

$$y^2 - 12y + 8y - 96$$
$$y(y - 12) + 8(y - 12)$$
$$3(y + 8)(y - 12)$$

**Score 2:** The student gave a complete and correct response.

Question 32

32 Factor completely:  $3y^2 - 12y - 288$

$$3y^2 - 12y - 288$$

$$y^2 - 4y - 96$$

$$(y-12)(y+8)$$

**Score 1:** The student divided each term by 3 instead of factoring the 3 out as a GCF.

Question 32

32 Factor completely:  $3y^2 - 12y - 288$

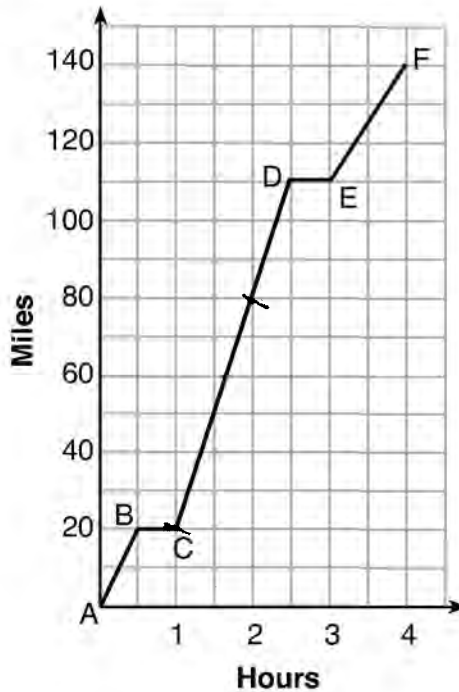
$$3y^2 - 12y - 288$$

$$(3y - 24)(y + 12)$$

**Score 0:** The student made two factoring errors.

Question 33

33 Thomas took a 140-mile bus trip to visit his grandparents. His trip is outlined on the graph below.



Explain what might have happened in the interval between *D* and *E*.

He stopped for 30 min so probably got something to eat.

State the interval in which the bus traveled the fastest.

Between C and D

State how many miles per hour the bus was traveling during this interval.

60 mph

What was the average rate of speed, in miles per hour, for Thomas's entire bus trip?

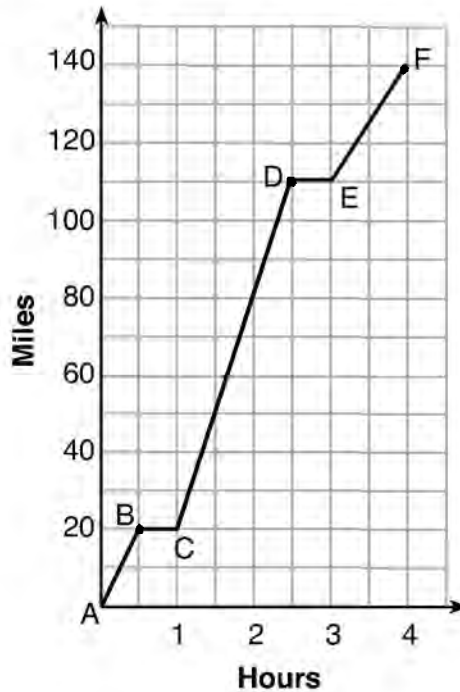
35 mph

**Score 4:** The student gave a complete and correct response.



**Question 33**

33 Thomas took a 140-mile bus trip to visit his grandparents. His trip is outlined on the graph below.



$$\begin{array}{l} \text{C to D} \\ \frac{110-20}{2.5-1} = \frac{90}{1.5} = 60 \end{array}$$

E to F:

$$\frac{140-110}{4-3} = \frac{30}{1} = 30$$

Explain what might have happened in the interval between D and E.

The bus stopped at a rest stop.

State the interval in which the bus traveled the fastest. C to D

State how many miles per hour the bus was traveling during this interval.

60.

What was the average rate of speed, in miles per hour, for Thomas's entire bus trip?

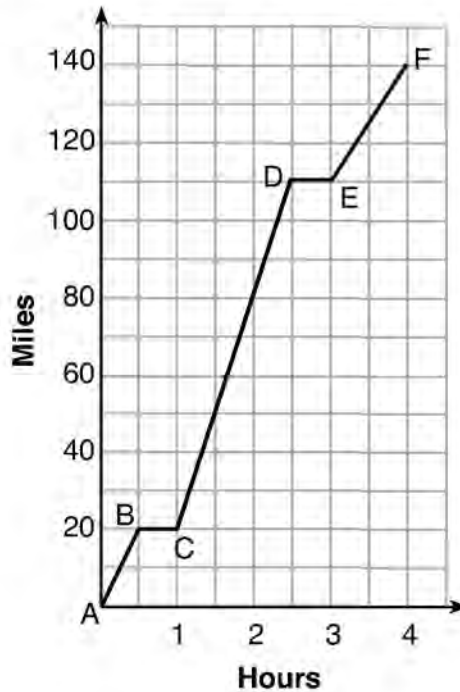
67.5 mph

$$\frac{270}{4}$$

**Score 3:** The student made an error in calculating the average rate of change for the entire trip.

Question 33

33 Thomas took a 140-mile bus trip to visit his grandparents. His trip is outlined on the graph below.



Explain what might have happened in the interval between *D* and *E*.

The bus stop in a gas station.

State the interval in which the bus traveled the fastest. 1 to 2:30 hour was the fastest

State how many miles per hour the bus was traveling during this interval.

20 miles per hour

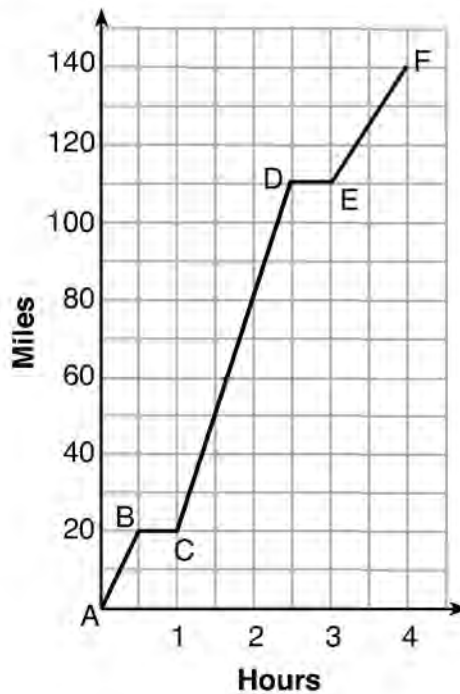
What was the average rate of speed, in miles per hour, for Thomas's entire bus trip?

Thomas' average of speed is 0.0.

Score 2: The student wrote two incorrect rates.

**Question 33**

**33** Thomas took a 140-mile bus trip to visit his grandparents. His trip is outlined on the graph below.



Explain what might have happened in the interval between *D* and *E*.

The bus may have took a stop.

State the interval in which the bus traveled the fastest. **F**

State how many miles per hour the bus was traveling during this interval.

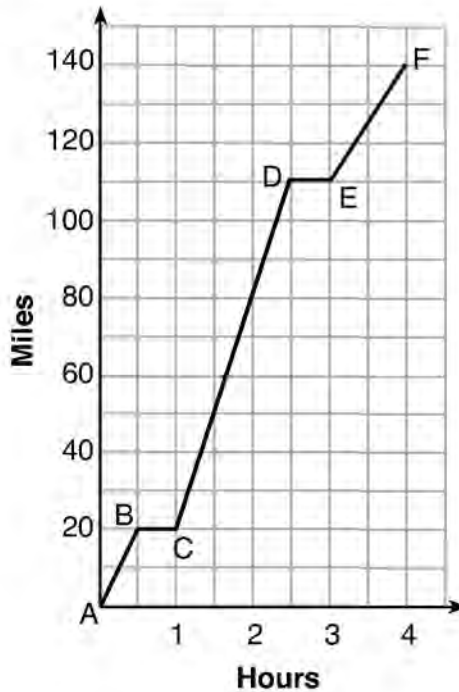
140 miles per hour.

What was the average rate of speed, in miles per hour, for Thomas's entire bus trip?

**Score 1:** The student wrote a correct explanation only.

Question 33

33 Thomas took a 140-mile bus trip to visit his grandparents. His trip is outlined on the graph below.



Explain what might have happened in the interval between *D* and *E*.

The bus was at a red light.

State the interval in which the bus traveled the fastest.

hours 1+2

State how many miles per hour the bus was traveling during this interval.

$$\frac{110-20}{2-1} = \frac{90}{1} = 90 \text{ mph}$$

What was the average rate of speed, in miles per hour, for Thomas's entire bus trip?

$$\frac{140}{20} = 7 \text{ mph}$$

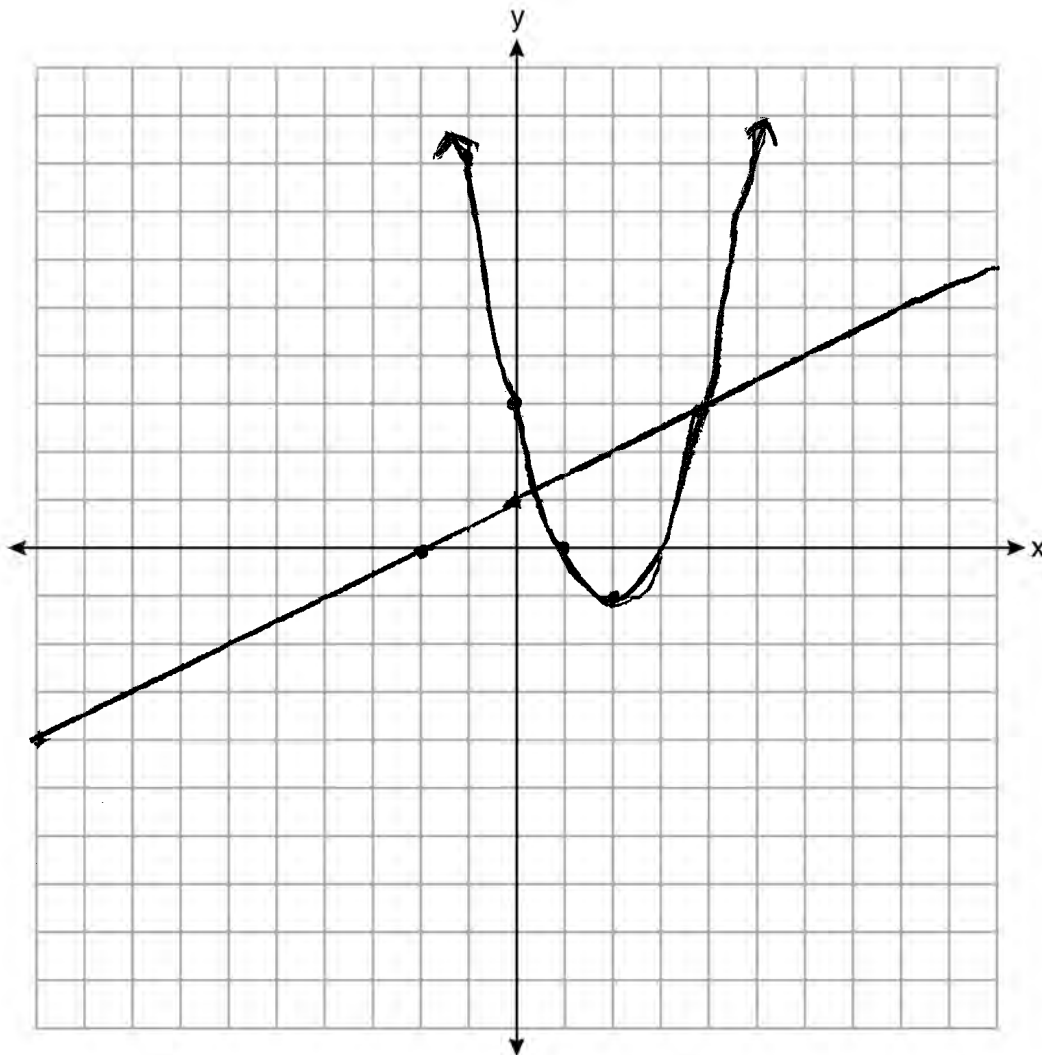
**Score 0:** The student did not show enough correct work to receive any credit.

Question 34

34 Graph  $f(x)$  and  $g(x)$  on the set of axes below.

$$f(x) = x^2 - 4x + 3$$

$$g(x) = \frac{1}{2}x + 1$$



Based on your graph, state *one* value of  $x$  that satisfies  $f(x) = g(x)$ . Explain your reasoning.

$x=0.5$  This is a solution because at this  $x$  coordinate the two graphs cross each other.

**Score 4:** The student gave a complete and correct response.

Question 34

34 Graph  $f(x)$  and  $g(x)$  on the set of axes below.

$$\begin{aligned} (-3)^2 - 4(-3) + 3 \\ 9 + 12 + 3 \\ 24 \end{aligned}$$

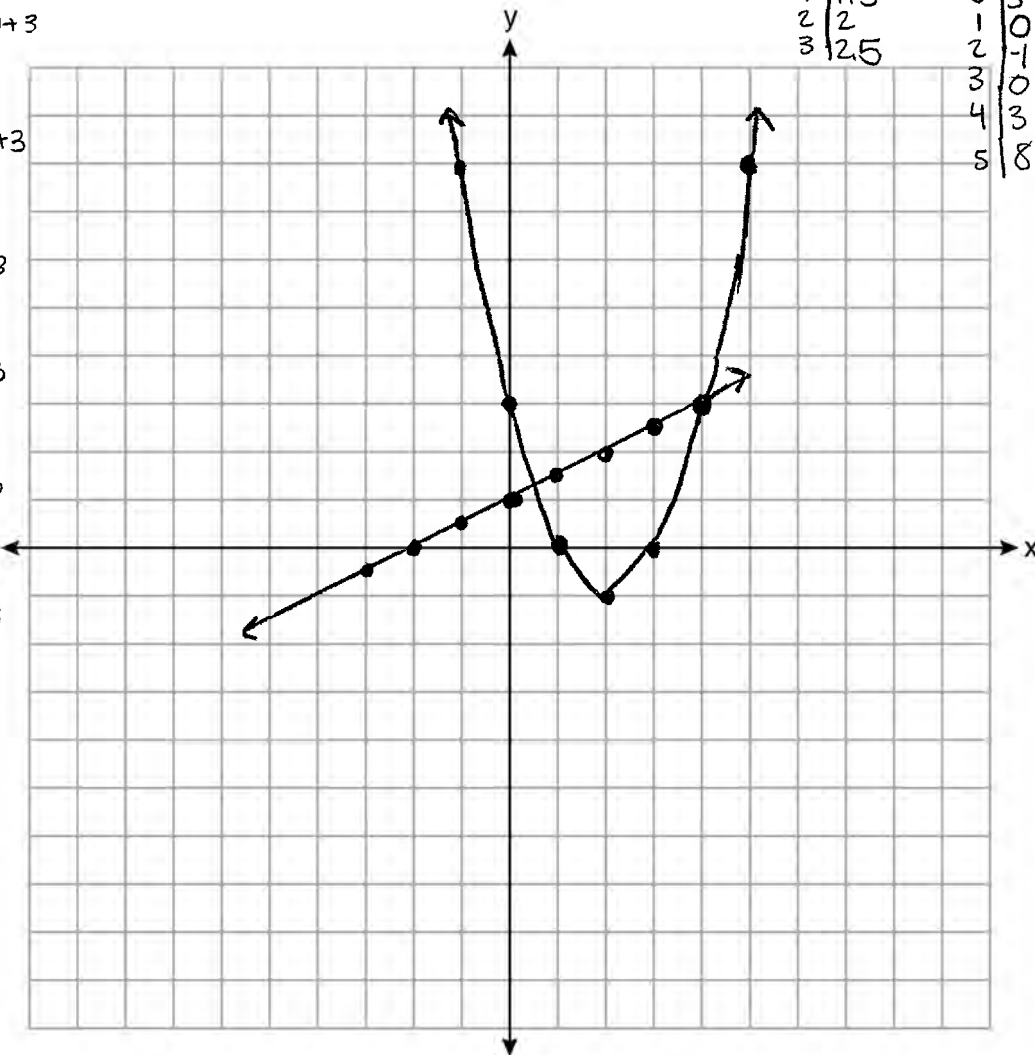
$$f(x) = x^2 - 4x + 3$$

$$g(x) = \frac{1}{2}x + 1$$

$x$	$g(x)$
-3	0.5
-2	0
-1	0.5
0	1
1	1.5
2	2
3	2.5

$x$	$f(x)$
-3	24
-2	15
-1	8
0	3
1	0
2	-1
3	0
4	3
5	8

$$\begin{aligned} (-2)^2 - 4(-2) + 3 \\ 4 + 8 + 3 \\ 15 \\ (-1)^2 - 4(-1) + 3 \\ 1 + 4 + 3 \\ 8 \\ 0^2 - 4(0) + 3 \\ 3 \\ 1^2 - 4(1) + 3 \\ 1 - 4 + 3 \\ 0 \\ 2^2 - 4(2) + 3 \\ 4 - 8 + 3 \\ -1 \\ 3^2 - 4(3) + 3 \\ 9 - 12 + 3 \\ 0 \\ 4^2 - 4(4) + 3 \\ 16 - 16 + 3 \end{aligned}$$



Based on your graph, state *one* value of  $x$  that satisfies  $f(x) = g(x)$ . Explain your reasoning.

one solution is (4,3) because both  $f(x)$  and  $g(x)$  graph at that point and therefore intersect; any intersection is a solution to a system of equations.

**Score 3:** The student stated the coordinates of a point of intersection.

Question 34

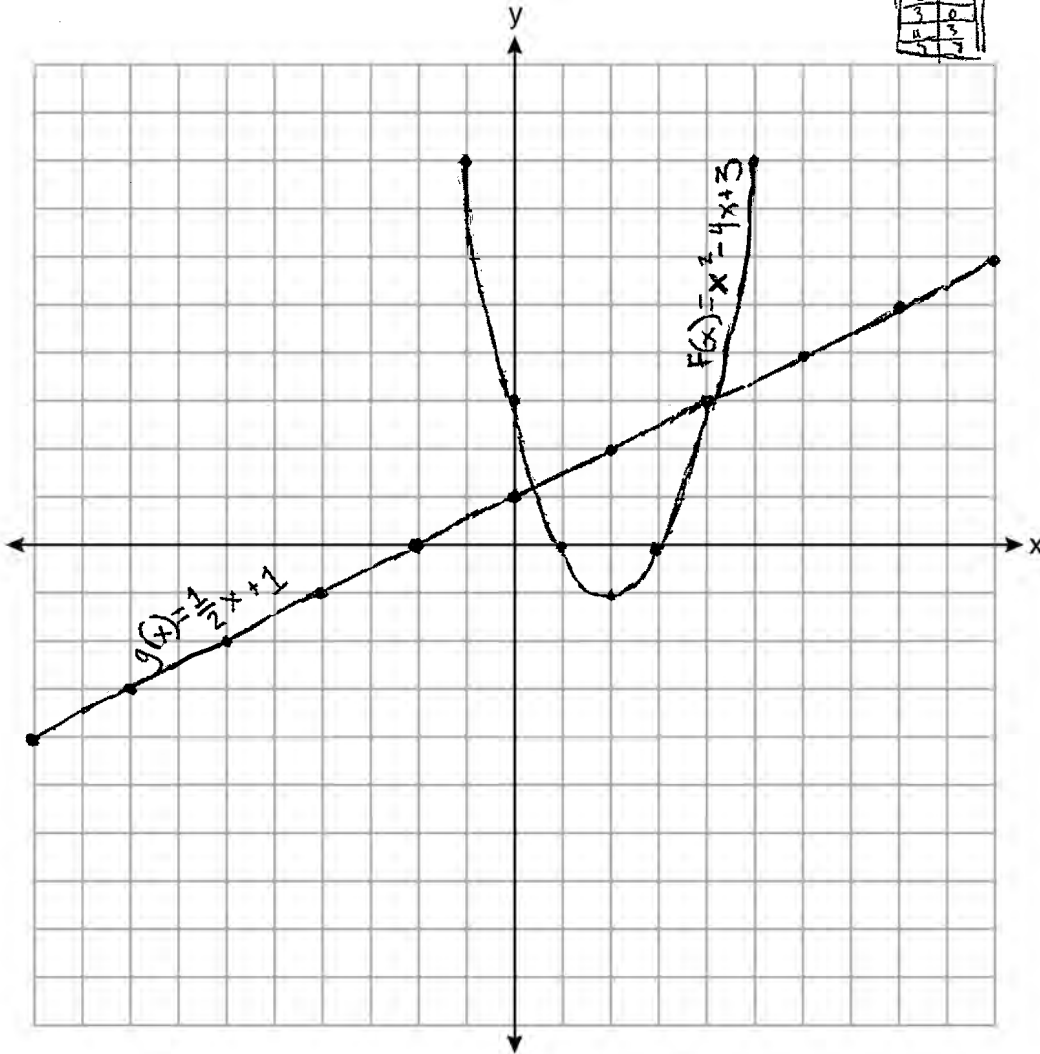
34 Graph  $f(x)$  and  $g(x)$  on the set of axes below.

$$f(x) = x^2 - 4x + 3$$

$$x^2 - 4x + 3$$

$$g(x) = \frac{1}{2}x + 1$$

x	y
-1	0
0	1
1	0
2	-1
3	0
4	3
5	2



Based on your graph, state *one* value of  $x$  that satisfies  $f(x) = g(x)$ . Explain your reasoning.

$(4,3)$  is a solution for  $f(x) = g(x)$  because that is the point where  $f(x)$  and  $g(x)$  meet on the co-ordinate plane

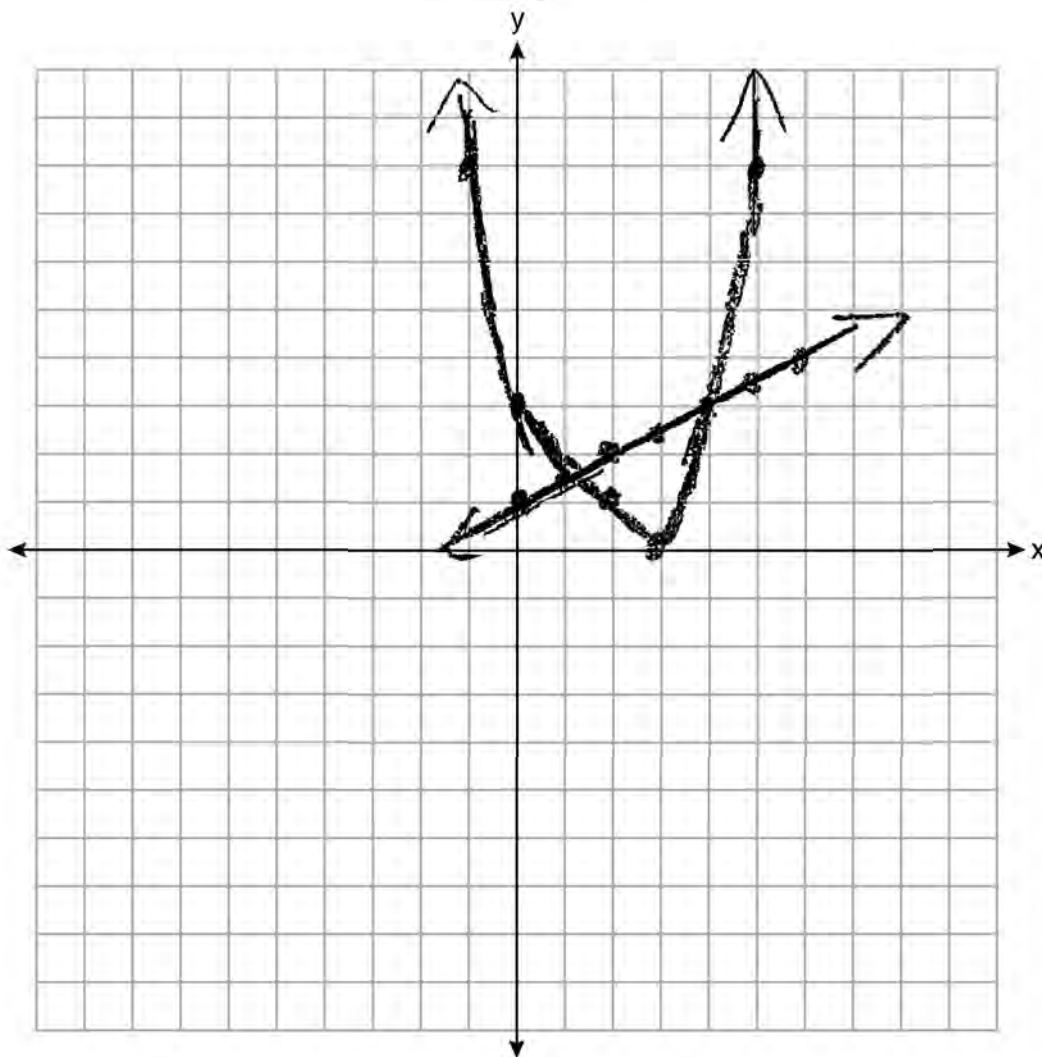
**Score 2:** The student did not complete the graph of  $f(x)$  and stated the coordinates of a point of intersection.

Question 34

34 Graph  $f(x)$  and  $g(x)$  on the set of axes below.

$$f(x) = x^2 - 4x + 3$$

$$g(x) = \frac{1}{2}x + 1$$



Based on your graph, state *one* value of  $x$  that satisfies  $f(x) = g(x)$ . Explain your reasoning.

$(4, 3)$

**Score 1:** The student graphed  $g(x)$  correctly, but no further correct work was shown.



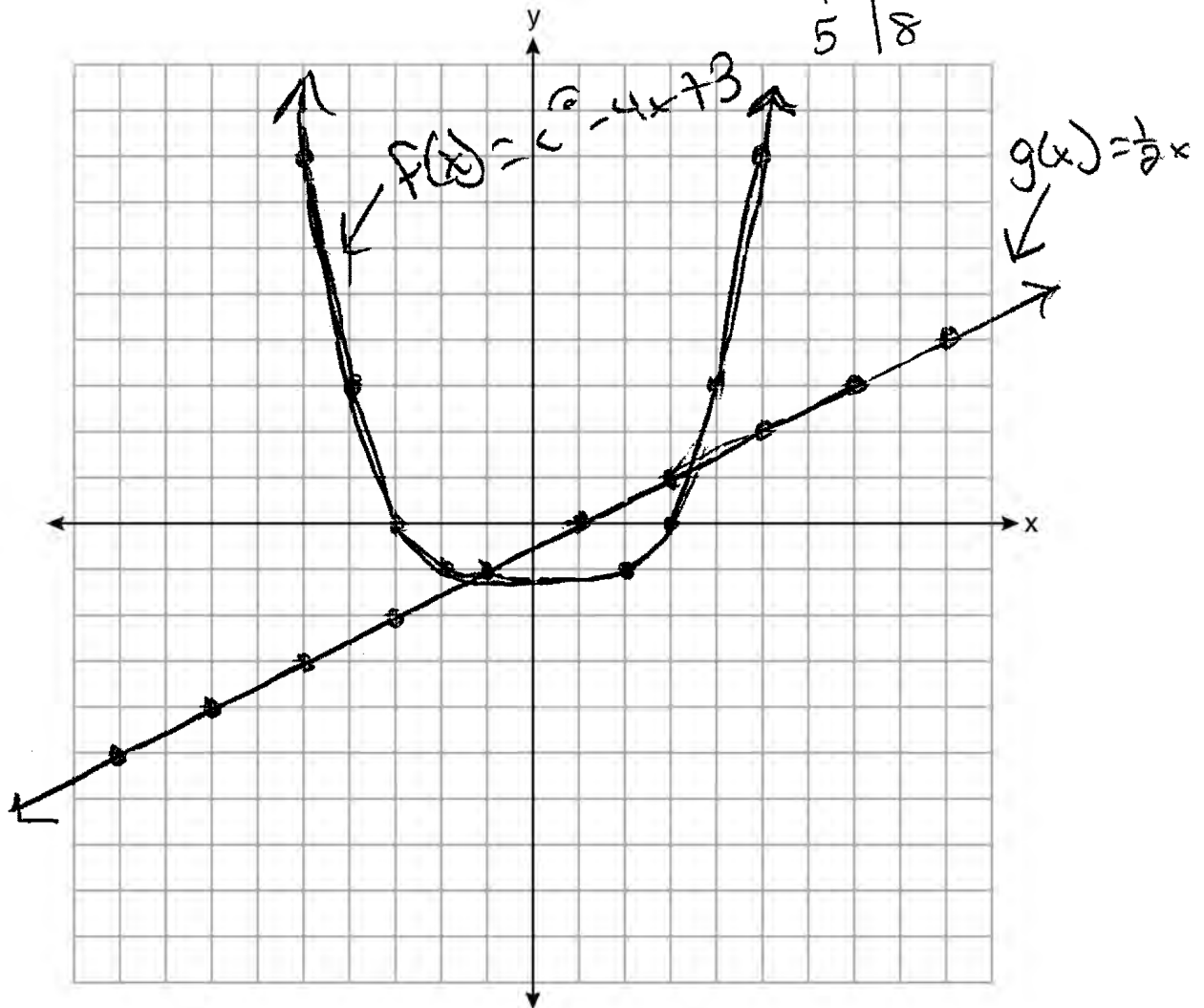
Question 34

34 Graph  $f(x)$  and  $g(x)$  on the set of axes below.

$$f(x) = x^2 - 4x + 3$$

$$g(x) = \frac{1}{2}x + 1$$

x	y
2	-1
3	0
4	3
5	8



Based on your graph, state *one* value of  $x$  that satisfies  $f(x) = g(x)$ . Explain your reasoning.

One solution for  $f(x) = g(x)$  is that the graphs cross. But they are not the same  $g(x)$  is a line and  $f(x)$  is a parabola.

**Score 0:** The student did not show enough correct work to receive any credit.

Question 35

35 A store sells grapes for \$1.99 per pound, strawberries for \$2.50 per pound, and pineapples for \$2.99 each. Jonathan has \$25 to buy fruit.

He plans to buy 2 more pounds of strawberries than grapes. He also plans to buy 2 pineapples.

If  $x$  represents the number of pounds of grapes, write an inequality in one variable that models this scenario.

S = Strawberries

$$1.99x + 2.50S + 2.99(2) \leq 25$$

$$S = x + 2$$

$$1.99x + 2.50(x+2) + 2.99(2) \leq 25$$

Determine algebraically the maximum number of whole pounds of grapes he can buy.

$$1.99x + 2.50(x+2) + 2.99(2) \leq 25$$

$$1.99x + 2.50x + 5 + 5.98 \leq 25$$

$$4.49x + 10.98 \leq 25$$
$$\underline{-10.98} \quad \underline{-10.98}$$

$$\frac{4.49x}{4.49} \leq \frac{14.02}{4.49}$$

$$3 + 2 = 5$$

$$x \leq 3.12249$$

$$\text{grapes} = 3 \text{ pounds}$$

Score 4: The student gave a complete and correct response.

Question 35

35 A store sells grapes for \$1.99 per pound, strawberries for \$2.50 per pound, and pineapples for \$2.99 each. Jonathan has \$25 to buy fruit.

He plans to buy 2 more pounds of strawberries than grapes. He also plans to buy 2 pineapples.

If  $x$  represents the number of pounds of grapes, write an inequality in one variable that models this scenario.

$$\begin{aligned} 1.99x + 2.5x + 2 + 2(2.99) &\leq 25 \\ 4.49x + 7.98 &\leq 25 \end{aligned}$$

Determine algebraically the maximum number of whole pounds of grapes he can buy.

$$4.49x + 7.98 \leq 25$$

$$4.49x \leq 17.02$$

$$x \leq 3.79064588 \approx$$

3

$$3 + 2 = 5$$

3 lbs of grapes

**Score 3:** The student wrote an incorrect inequality, but solved it appropriately.

Question 35

35 A store sells  $g = \$1.99$  grapes for \$1.99 per pound,  $s = \$2.50$  strawberries for \$2.50 per pound, and  $p = \$2.99$  pineapples for \$2.99 each. Jonathan has \$25 to buy fruit.

He plans to buy 2 more pounds of strawberries than grapes. He also plans to buy 2 pineapples.

If  $x$  represents the number of pounds of grapes, write an inequality in one variable that models this scenario.

$$25 \leq 5.98 + 1.99x + 2.50(x+2)$$

$\swarrow$  pounds of grapes  
 $\nwarrow$  pounds of strawberries  
 $\uparrow$  pineapples     $\uparrow$  grapes     $\nwarrow$  strawberries

Determine algebraically the maximum number of whole pounds of grapes he can buy.

$$25 \leq 5.98 + 1.99x + 2.50(x+2)$$

$$\begin{array}{r} 25 \\ - 5.98 \\ \hline 19.02 \end{array}$$

$$\begin{array}{l} 25 \leq 5.98 + 1.99(3) + 2.50(5) \\ 25 \leq 24.45 \end{array}$$

$$\begin{array}{l} 19.02 \leq 1.99x + 2.50x + 5 \\ -5 \qquad \qquad \qquad -5 \end{array}$$

$$14.02 \leq 1.99x + 2.50x$$

$$14.02 \leq 4.49x$$

$$\begin{array}{r} 14.02 \leq 4.49x \\ \hline 4.49 \end{array}$$

$$3.12 \leq x$$

Jonathan can buy 3 pounds of grapes.

**Score 2:** The student used the wrong inequality sign and did not find a number greater than 3.12.

Question 35

35 A store sells grapes for \$1.99 per pound, strawberries for \$2.50 per pound, and pineapples for \$2.99 each. Jonathan has \$25 to buy fruit.

He plans to buy 2 more pounds of strawberries than grapes. He also plans to buy 2 pineapples.

If  $x$  represents the number of pounds of grapes, write an inequality in one variable that models this scenario.

$x = \text{grapes}$   
 $P = \text{pineapples}$   
 $S = \text{strawberries}$

$$2.99(2) + 2.50s + 1.99x \leq 25.00$$

Determine algebraically the maximum number of whole pounds of grapes he can buy.

$$2.99(2) + 2.50s + 1.99x \leq 25.00$$

$$\begin{array}{r} 5.98 + 2.50s + 1.99x \leq 25.00 \\ - 5.98 \qquad \qquad \qquad - 5.98 \\ \hline 2.50s + 1.99x \leq 19.02 \end{array}$$

$$\begin{array}{r} 2.50(2) + 1.99x \leq 19.02 \\ 5.00 + 1.99x \leq 19.02 \\ - 5.00 \qquad \qquad \qquad - 5.00 \\ \hline 1.99x \leq 14.02 \\ \hline 1.99 \quad 1.99 \\ \hline 7.04 \text{ pounds of grapes} \end{array}$$

**Score 1:** The student wrote a correct inequality in more than one variable.

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**Question 35**

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**35** A store sells grapes for \$1.99 per pound, strawberries for \$2.50 per pound, and pineapples for \$2.99 each. Jonathan has \$25 to buy fruit.

He plans to buy 2 more pounds of strawberries than grapes. He also plans to buy 2 pineapples.

If  $x$  represents the number of pounds of grapes, write an inequality in one variable that models this scenario.

$$(x) + (x + 2) + 5.98 \leq 25$$

Determine algebraically the maximum number of whole pounds of grapes he can buy.

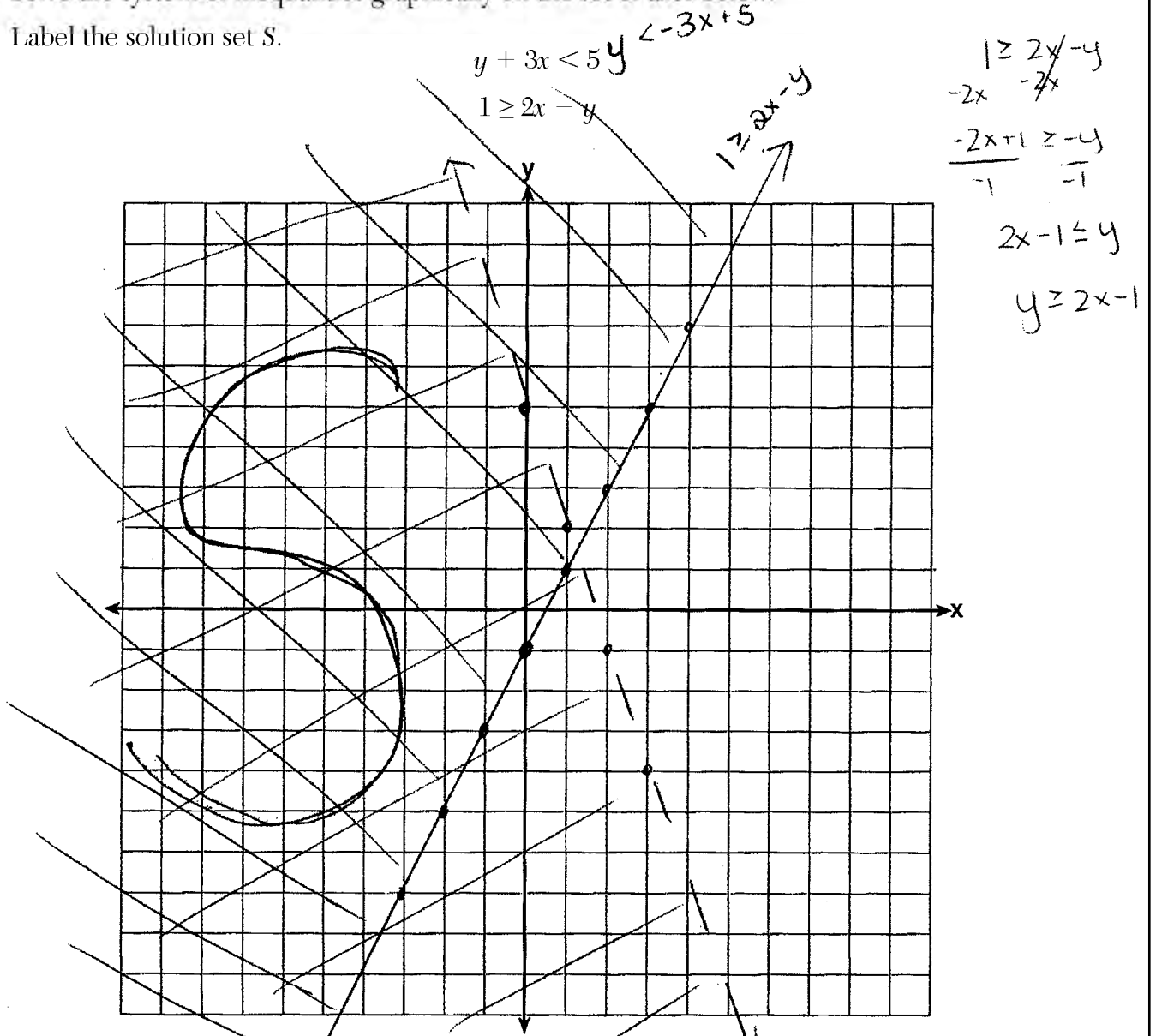
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**Score 0:** The student wrote an incorrect inequality, and no further correct work was shown.

**Question 36**

**36** Solve the system of inequalities graphically on the set of axes below.

Label the solution set S.



Is the point  $(-5, 0)$  in the solution set? Explain your answer.

yes it is because it's in the shaded area of both inequalities and in the solution set.

**Score 4:** The student gave a complete and correct response.

Question 36

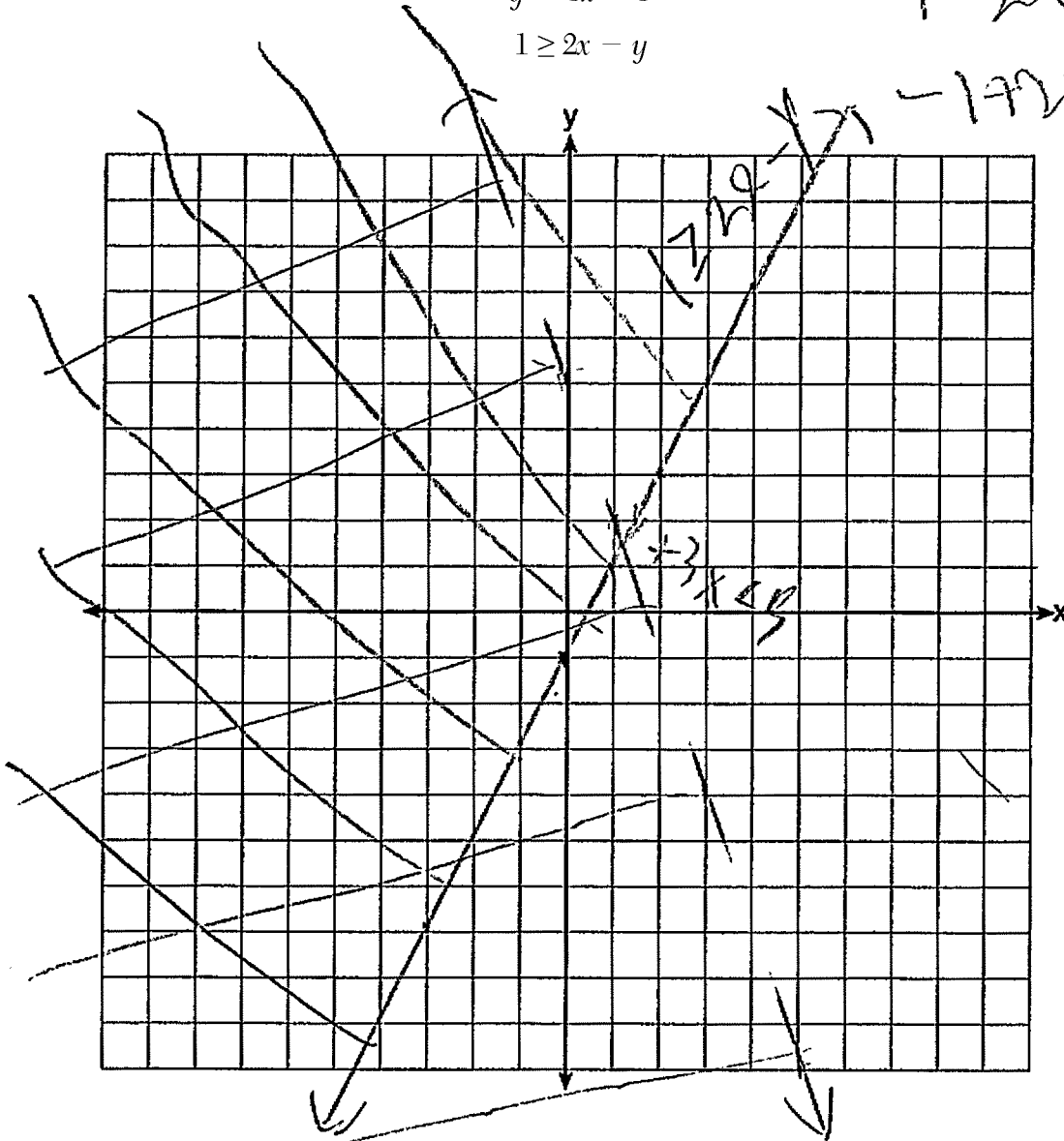
36 Solve the system of inequalities graphically on the set of axes below.

Label the solution set S.

$$y + 3x < 5$$

$$1 \geq 2x - y$$

$$1 - 2x \geq -y$$
$$-1 + 2x \leq -y$$



Is the point  $(-5, 0)$  in the solution set? Explain your answer.

Yes, it is in the crossed-section

Score 3: The student did not label the solution set S.

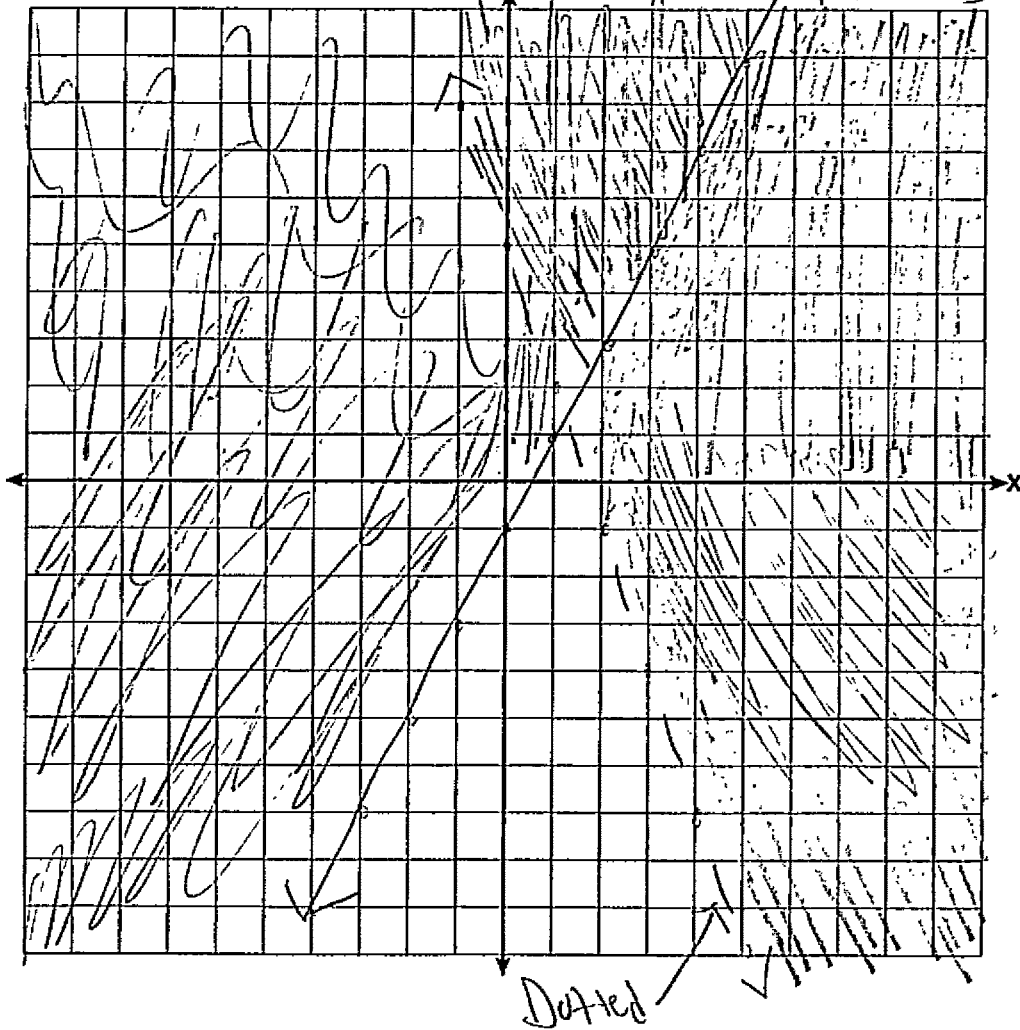


**Question 36**

**36** Solve the system of inequalities graphically on the set of axes below.

Label the solution set S.

$y + 3x < 5$   
 $1 \geq 2x - y$   
 $y < -3x + 5$   
 $y + 1 \geq 2x - 1$   
 $y \geq 2x - 1$   
 $1 \geq 2x - y$



Is the point  $(-5, 0)$  in the solution set? Explain your answer.

No because  $(-5, 0)$  is only a solution to  $1 \geq 2x - y$  and not  $y + 3x < 5$ .

**Score 2:** The student shaded  $y + 3x < 5$  incorrectly and did not label the solution set S.

Question 36

36 Solve the system of inequalities graphically on the set of axes below.

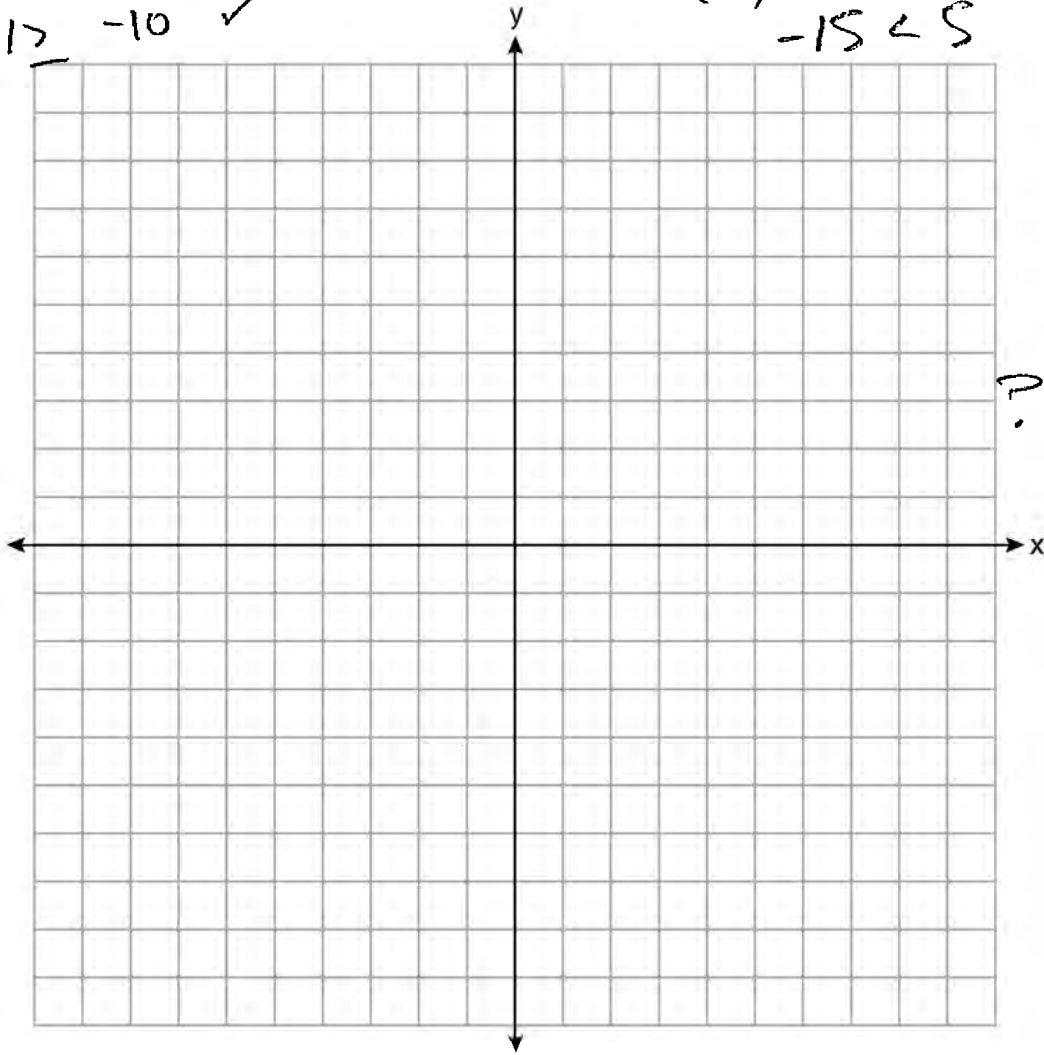
Label the solution set S.

$$1 \geq 2(-5) - 0$$
$$1 \geq -10 \quad \checkmark$$

$$y + 3x < 5$$

$$1 \geq 2x - y$$

$$\frac{-5, 0}{0 + 3(-5) < 5}$$
$$-15 < 5 \quad \checkmark$$



Is the point  $(-5, 0)$  in the solution set? Explain your answer.

$(-5, 0)$  is in the solution set because it makes both inequalities true.

**Score 1:** The student wrote a correct explanation for the point  $(-5, 0)$ , but no further correct work was shown.

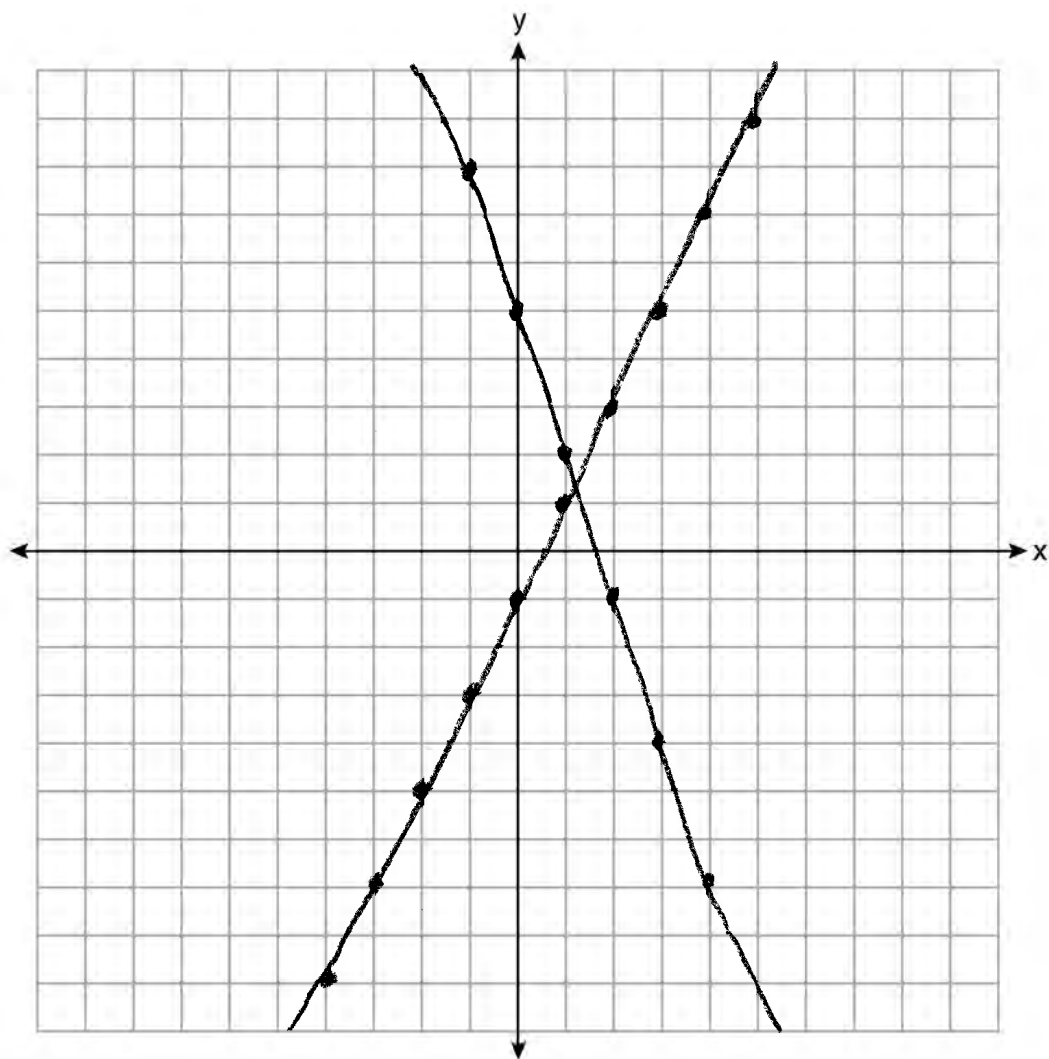
Question 36

36 Solve the system of inequalities graphically on the set of axes below.

Label the solution set S.

$$y + 3x < 5$$

$$1 \geq 2x - y$$



Is the point  $(-5, 0)$  in the solution set? Explain your answer.

**Score 0:** The student graphed  $y + 3x = 5$  and  $1 = 2x - y$  correctly, but neither line is labeled.

**Question 37**

**37** An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

$$\begin{array}{l} 30x + 50y = 420 \\ 15x + 35y = 270 \end{array} \quad \begin{array}{l} \text{Let } x = \text{small sundae} \\ \text{Let } y = \text{large sundae} \end{array}$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

Peyton is wrong because if you plug these numbers in the first equation it will work but if you do it for the second one it will be wrong. It will be an extra 7.50 dollars in cost.

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

$$\begin{array}{r} 30x + 50y = 420 \\ (15x + 35y = 270) \cdot 2 \\ \hline 30x + 50y = 420 \\ -30x - 70y = -540 \\ \hline -20y = -120 \\ \quad -20 \\ \hline \boxed{y = 6} \end{array} \quad \begin{array}{r} 30x + 50(6) = 420 \\ 30x + 300 = 420 \\ \quad -300 \quad -300 \\ \hline 30x = 120 \\ \quad \boxed{x = 4} \end{array}$$

Small sundae = 4  
Large sundae = 6

**Score 6:** The student gave a complete and correct response.

**Question 37**

37 An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

let  $x = \$$  of small sundae  
 $y = \$$  of large sundae

$$30x + 50y = 420$$

$$15x + 35y = 270$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

*UPK*

$$30x + 50y = 420$$

$$\begin{array}{r} -50y \quad -50y \\ \hline 30x = 420 - 50y \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \\ x = 14 - \frac{5}{3}y \end{array}$$

$$15\left(14 - \frac{5}{3}y\right) + 35y = 270$$

$$210 - 25y + 35y = 270$$

$$\begin{array}{r} -25y + 35y \\ \hline 10y = 60 \\ \underline{\quad} \quad \underline{\quad} \\ y = 6 \end{array}$$

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

$x = 4$

$y = 6$

$$30x + 50y = 420$$

$$30x + 50(6) = 420$$

$$30x + 300 = 420$$

$$\begin{array}{r} -300 \quad -300 \\ \hline 30x = 120 \\ \underline{\quad} \quad \underline{\quad} \\ x = 4 \end{array}$$

$y = 4$

Ex:  $30(4) + 50(6) = 420$   
 $420 = 420$

$$15(4) + 35(6) = 270$$

$$270 = 270$$

Peyton is incorrect, because the small sundae is \$4 and the large sundae is \$6. If you plug in the #'s to the above system of equations you get what they equal.

**Score 6:** The student gave a complete and correct response.

**Question 37**

**37** An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

$$\begin{aligned} 30x + 50y &= 420 \\ 15x + 35y &= 270 \end{aligned}$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

$$30(2.75) + 50(6.75) = 420 \quad \text{yes}$$

$$15(2.75) + 35(6.75) \neq 270$$

*Peyton is NOT correct. The numbers don't work in the second equation*

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

$x$	$y_1$	$y_2$
3	6.6	6.4286
4	6	6
5	5.4	5.5714

$$\begin{aligned} x &= 4 \\ y &= 6 \end{aligned}$$

**Score 5:** The student used a method other than algebraic to find  $x = 4$  and  $y = 6$ .

**Question 37**

37 An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

let  $x$  = small sundaes

let  $y$  = large sundaes

$$30x + 50y = 420$$

$$15x + 35y = 270$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

$$30(2.75) + 50(6.75) = 420 \checkmark$$

$$15(2.75) + 35(6.75) = 270 \times$$

Peyton is not correct because, although the prices worked for one day, it didn't for the <sup>other</sup> day.

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

$$30x + 50y = 420$$

$$15x + 35y = 270$$

**Score 4:** The student wrote a correct system of equations and provided a correct justification.

**Question 37**

**37** An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

$$X(30) + Y(50) = 420$$

$$X(15) + Y(35) = 270$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

$$\begin{array}{r} 2.75(30) = 82.5 \\ 6.75(50) = 337.5 \\ \hline 420 \end{array} \quad \begin{array}{r} 2.75(15) = 41.25 \\ 6.75(35) = 236.25 \\ \hline 277.5 \end{array}$$

Peyton is <sup>half</sup> correct

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

$$\begin{array}{l} 2.75 \text{ small sundae cost} \\ 6.75 \text{ Large Sundae cost} \end{array}$$

**Score 4:** The student wrote a correct system of equations and provided a correct justification.





**Question 37**

**37** An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

$$S + L = 420$$

$$S + L = 270$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

$$30(2.75) + 50(6.75) = 420$$
$$82.50 + 337.50 = 420$$

$$15(2.75) + 35(6.75) = 270 \quad \text{No}$$
$$41.25 + 236.25 = 277.50$$

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

$$\begin{array}{r} S + L = 420 \\ S + L = 270 \\ \hline 2S + 2L = 690 \\ S + L = 345 \end{array}$$

**Score 2:** The student wrote a correct justification.

**Question 37**

37 An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

let  $x$  = cost of sm sundaes day 1  
let  $y$  = cost of lrg sundaes

30 sm	<u>day 2</u>
50 lrg	15 sm
	<u>35 lrg</u>
	270

$$30x + 50y = 420$$
$$15x + 35y = 270$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

**Score 1:** The student wrote one correct equation, but no further correct work was shown.

Question 37

37 An ice cream shop sells small and large sundaes. One day, 30 small sundaes and 50 large sundaes were sold for \$420. Another day, 15 small sundaes and 35 large sundaes were sold for \$270. Sales tax is included in all prices.

If  $x$  is the cost of a small sundae and  $y$  is the cost of a large sundae, write a system of equations to represent this situation.

$$x = 30 \quad y = 30x + 50 = 420$$

$$y = 50 \quad y = 15x + 35 = 270$$

Peyton thinks that small sundaes cost \$2.75 and large sundaes cost \$6.75. Is Peyton correct? Justify your answer.

Yes because the small sundaes are the right amount and the large should cost more.

Using your equations, determine algebraically the cost of one small sundae and the cost of one large sundae.

$$y = 30x + 50 = 420$$
$$\begin{array}{r} - 50 \quad - 50 \\ \hline \end{array}$$

$$\frac{30x}{30} = \frac{370}{30}$$

$$x = \$12.30$$

small

$$y = 15x + 35 = 270$$
$$\begin{array}{r} - 35 \quad - 35 \\ \hline \end{array}$$

$$\frac{15x}{15} = \frac{235}{15}$$

$$x = \$15.70$$

large

**Score 0:** The student did not show enough correct work to receive any credit.

## Regents Examination in Algebra I – August 2022

Chart for Converting Total Test Raw Scores to Final Exam Scores (Scale Scores)

(Use for the August 2022 exam only.)

Raw Score	Scale Score	Performance Level	Raw Score	Scale Score	Performance Level	Raw Score	Scale Score	Performance Level
86	100	5	57	81	4	28	65	3
85	99	5	56	81	4	27	64	2
84	98	5	55	81	4	26	63	2
83	97	5	54	80	4	25	62	2
82	95	5	53	80	4	24	61	2
81	94	5	52	80	4	23	59	2
80	93	5	51	79	3	22	58	2
79	92	5	50	79	3	21	57	2
78	91	5	49	79	3	20	55	2
77	91	5	48	78	3	19	53	1
76	90	5	47	78	3	18	52	1
75	89	5	46	78	3	17	50	1
74	88	5	45	77	3	16	48	1
73	88	5	44	77	3	15	46	1
72	87	5	43	76	3	14	44	1
71	87	5	42	76	3	13	42	1
70	86	5	41	75	3	12	39	1
69	86	5	40	75	3	11	37	1
68	86	5	39	74	3	10	35	1
67	85	5	38	74	3	9	32	1
66	84	4	37	73	3	8	29	1
65	84	4	36	72	3	7	26	1
64	83	4	35	72	3	6	23	1
63	83	4	34	71	3	5	20	1
62	83	4	33	70	3	4	16	1
61	82	4	32	69	3	3	12	1
60	82	4	31	68	3	2	9	1
59	82	4	30	67	3	1	4	1
58	82	4	29	66	3	0	0	1

To determine the student’s final examination score (scale score), find the student’s total test raw score in the column labeled “Raw Score” and then locate the scale score that corresponds to that raw score. The scale score is the student’s final examination score. Enter this score in the space labeled “Scale Score” on the student’s answer sheet.

**Schools are not permitted to rescore any of the open-ended questions on this exam after each question has been rated once, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.**

Because scale scores corresponding to raw scores in the conversion chart change from one administration to another, it is crucial that for each administration the conversion chart provided for that administration be used to determine the student’s final score. The chart above is usable only for this administration of the Regents Examination in Algebra I.