The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

ÁLGEBRA INTEGRADA

Miércoles, 13 de agosto de 2008 – 8:30 to 11:30 a.m., solamente

Escriba su nombre en letras de molde:

Escriba el nombre de su escuela en letras de molde:

Escriba su nombre y el nombre de su escuela en los recuadros de arriba en letras de molde. Después pase a la última página de este folleto, que es la hoja de respuestas para la Parte I. Doble la última página a lo largo de las perforaciones y, lenta y cuidadosamente, desprenda la hoja de respuestas. Después rellene el encabezamiento de su hoja de respuestas.

No se permite papel de borrador para ninguna parte de este examen, pero usted puede usar los espacios en blanco de este folleto como papel de borrador. Una hoja perforada de papel de borrador cuadriculado está provista al final de este folleto para cualquier pregunta para la cual sea útil un gráfico, aunque no se requiere. Usted puede remover esta hoja del folleto. Cualquier trabajo que se realice en esta hoja de papel de borrador cuadriculado *no* será calificado. Todo el trabajo debe realizarse con bolígrafo, menos los gráficos y los dibujos, los cuales deben realizarse con lápiz.

Las fórmulas que podría necesitar para contestar algunas preguntas de este examen se encuentran al final de este examen. La hoja está perforada para que pueda removerla de este folleto.

Este examen contiene cuatro partes, con un total de 39 preguntas. Usted debe contestar todas las preguntas de este examen. Escriba sus respuestas para las preguntas de selección múltiple de la Parte I en la hoja separada de respuestas. Escriba sus respuestas a las preguntas de las Partes II, III y IV directamente en este folleto. Indique claramente los pasos necesarios, incluyendo las sustituciones apropiadas de fórmulas, diagramas, gráficos, tablas, etc.

Cuando usted haya terminado el examen, debe firmar la declaración impresa al final de la hoja de respuestas, indicando que usted no tenía ningún conocimiento ilegal de las preguntas o de las respuestas antes del examen y que no ha dado ni ha recibido ayuda en contestar ninguna de las preguntas durante el examen. Su hoja de respuestas no puede ser aceptada si usted no firma esta declaración.

> Aviso…
>
> Una calculadora para hacer gráficos y una regla tienen que estar disponibles para su uso mientras toma este examen.

El uso de cualquier aparato destinado a la comunicación está estrictamente prohibido mientras esté realizando el examen. Si usted utiliza cualquier aparato destinado a la comunicación, aunque sea brevemente, su examen será invalidado y no se calculará su calificación.

NO ABRA ESTE FOLLETO DE EXAMEN HASTA QUE SE LE INDIQUE.

Parte I

Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 2 puntos. No se dará crédito parcial. Para cada pregunta, escriba en la hoja separada de respuestas, el número que precede a la palabra o expresión que completa mejor la afirmación o contesta mejor a la pregunta.   [60]

Utilice este espacio para sus cálculos.

1 ¿Qué valor de p es la solución de $5p - 1 = 2p + 20$?

(1) $\dfrac{19}{7}$ (3) 3

(2) $\dfrac{19}{3}$ (4) 7

2 ¿El enunciado $2 + 0 = 2$ es un ejemplo de qué propiedad de los números reales ?

(1) asociativa   (3) del inverso aditivo

(2) de identidad aditiva   (4) distributiva

3 La Sra. Smith escribió en la pizarra "Ocho menos que tres veces un número es mayor que quince". Si x representa el número, ¿qué desigualdad es una traducción correcta de este enunciado?

(1) $3x - 8 > 15$ (3) $8 - 3x > 15$

(2) $3x - 8 < 15$ (4) $8 - 3x < 15$

4 ¿Que enunciado es verdadero acerca del conjunto de datos
3, 4, 5, 6, 7, 7, 10?

(1) media = modo   (3) media = mediana

(2) media > modo   (4) media < mediana

**5** ¿Qué valor de x pertenece al conjunto de soluciones de la desigualdad
$-4x + 2 > 10$?

(1) -2 (3) 3

(2) 2 (4) -4

**6** Completamente descompuesta en factores, la expresión $2x^2 + 10x - 12$ es
equivalente a

(1) $2(x - 6)(x + 1)$ (3) $2(x + 2)(x + 3)$

(2) $2(x + 6)(x - 1)$ (4) $2(x - 2)(x - 3)$

7 El tanque de gasolina de un automóvil tiene capacidad para un total de 16 galones de gasolina. El automóvil recorre 75 millas con 4 galones de gasolina. Si el tanque de gasolina está lleno al iniciar un viaje, ¿qué gráfico representa la tasa de cambio de la cantidad de gasolina que hay en el tanque?
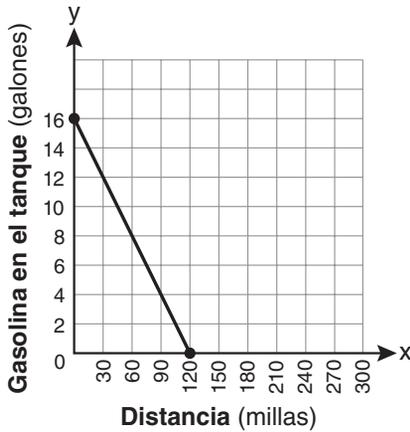

(1)
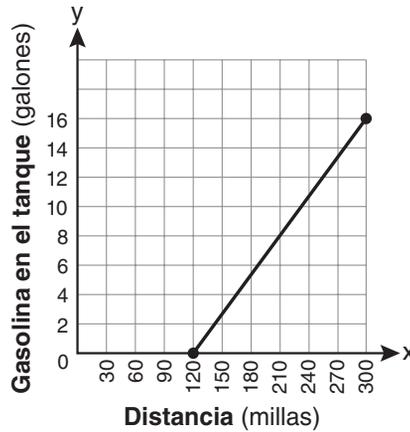
(3)
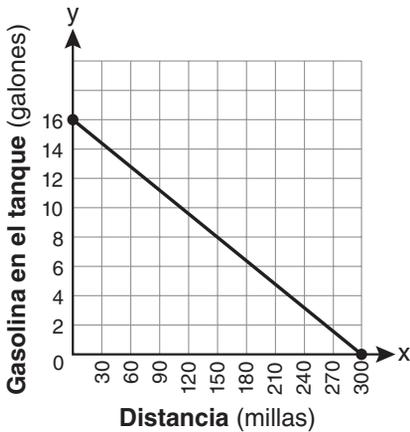
(2)
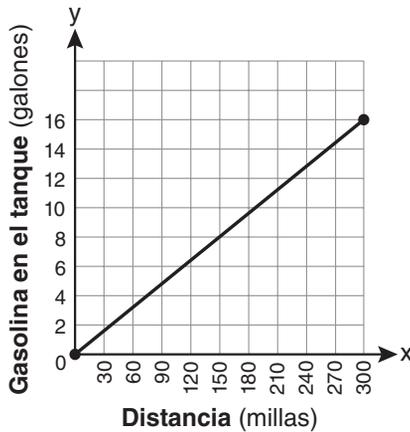
(4)

8 Si $3ax + b = c$, entonces x es igual a

(1) $c - b + 3a$

(3) $\dfrac{c - b}{3a}$

(2) $c + b - 3a$

(4) $\dfrac{b - c}{3a}$

9 El largo de la hipotenusa de un triángulo rectángulo es 34 pulgadas y el largo de uno de los catetos es 16 pulgadas. ¿Cuál es el largo, en pulgadas, del otro cateto de este triángulo rectángulo?

(1) 16   (3) 25

(2) 18   (4) 30

10 ¿Qué ecuación representa una línea paralela al eje x?

(1) $x = 5$ (3) $x = \frac{1}{3}y$

(2) $y = 10$ (4) $y = 5x + 17$

11 Sam y Odel han estado vendiendo pizzas congeladas para recaudar fondos para su clase. La cantidad de pizzas que Sam ha vendido es la mitad de las que ha vendido Odel. Juntos han vendido un total de 126 pizzas. ¿Cuántas pizzas vendió Sam?

(1) 21   (3) 63

(2) 42   (4) 84

12 ¿Qué par ordenado pertenece al conjunto de soluciones del sistema de ecuaciones $y = -x + 1$ e $y = x^2 + 5x + 6$?

(1) $(-5,-1)$ (3) $(5,-4)$

(2) $(-5,6)$ (4) $(5,2)$

13 Una integrante de un equipo de natación se tiró de clavado desde un trampolín de 14 pies de altura. La siguiente parábola muestra la trayectoria de su clavado.

Distancia desde el trampolín (pies)

¿Qué ecuación representa el eje de simetría?

(1) $x = 3$

(3) $x = 23$

(2) $y = 3$

(4) $y = 23$

14 La clase de aeróbicos de Nicole hace ejercicio al ritmo de música rápida. Si la velocidad de la música es 120 golpes por minuto, ¿cuántos golpes se escucharían en una clase que dura 0.75 horas?

(1) 90

(3) 5,400

(2) 160

(4) 7,200

15 Luis va a pintar una cancha de baloncesto en la entrada a su casa, según se muestra en el siguiente diagrama. Esta cancha de baloncesto consiste de un rectángulo y un semicírculo.
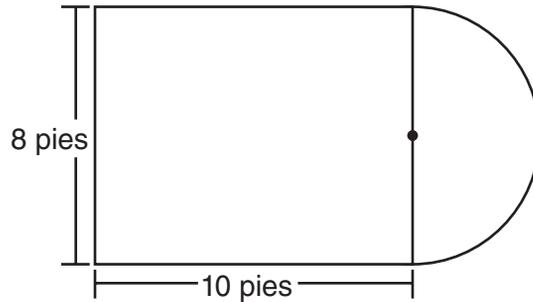
¿Qué expresión representa el área de esta cancha de baloncesto, en pies cuadrados?

(1) 80   (3) $80 + 16\pi$

(2) $80 + 8\pi$ (4) $80 + 64\pi$

16 John va a colocar en fila sus cuatro trofeos de golf en un estante de su dormitorio. ¿De cuántas maneras distintas es posible que él acomode sus trofeos?

(1) 24   (3) 10

(2) 16   (4) 4

17 Un rectángulo tiene un área de 24 unidades cuadradas. El ancho es 5 unidades menos que el largo. ¿Cuál es el largo, en unidades, del rectángulo?

(1) 6   (3) 3

(2) 8   (4) 19

18 ¿Cuál es el valor del tercer cuartil que se muestra en el siguiente gráfico de cajas y líneas?
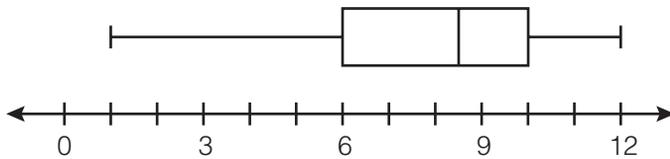
(1) 6   (3) 10

(2) 8.5   (4) 12

19 Cuando se resta $3g^2 - 4g + 2$ de $7g^2 + 5g - 1$, la diferencia es

(1) $-4g^2 - 9g + 3$ (3) $4g^2 + 9g - 3$

(2) $4g^2 + g + 1$ (4) $10g^2 + g + 1$

20 ¿Qué valor de x es una solución de $\dfrac{2x}{5} + \dfrac{1}{3} = \dfrac{7x - 2}{15}$?

(1) $\dfrac{3}{5}$ (3) 3

(2) $\dfrac{31}{26}$ (4) 7

21 ¿Qué expresión representa $\dfrac{25x - 125}{x^2 - 25}$ en su forma más simple?

(1) $\dfrac{5}{x}$

(3) $\dfrac{25}{x - 5}$

(2) $\dfrac{-5}{x}$

(4) $\dfrac{25}{x + 5}$

22 ¿Qué ecuación representa de manera más cercana la línea de ajuste óptimo para el siguiente gráfico de dispersión?

Dinero ganado cuidando niños

Tiempo cuidando niños (horas)
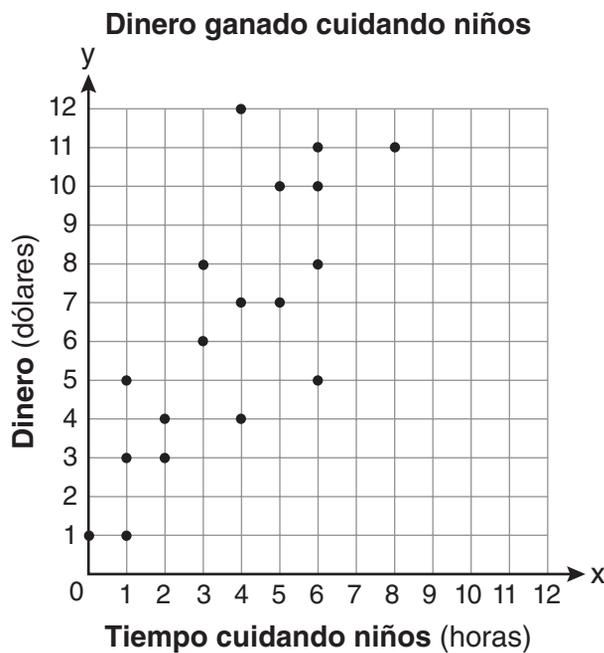
(1) $y = x$

(3) $y = \dfrac{3}{2}x + 4$

(2) $y = \dfrac{2}{3}x + 1$

(4) $y = \dfrac{3}{2}x + 1$

23 En una ecuación lineal, la variable independiente aumenta a una velocidad constante mientras que la variable dependiente disminuye a una velocidad constante. La pendiente de esta línea es

(1) cero

(3) positiva

(2) negativa

(4) indefinida

24 ¿Qué ecuación se podría usar para encontrar la medida de un ángulo agudo en el triángulo rectángulo que se muestra a continuación?

(1) $\operatorname{sen} A = \dfrac{4}{5}$
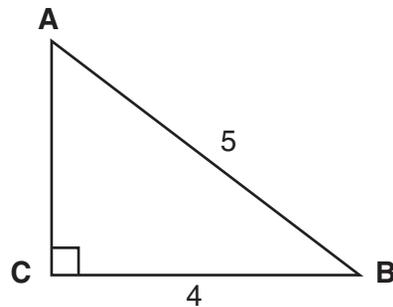
(2) $\tan A = \dfrac{5}{4}$

(3) $\cos B = \dfrac{5}{4}$

(4) $\tan B = \dfrac{4}{5}$

25 ¿Qué par ordenado pertenece al conjunto de soluciones del siguiente sistema de desigualdades?

$$y < \dfrac{1}{2}x + 4$$

$$y \geq -x + 1$$

(1) $(-5,3)$

(2) $(0,4)$

(3) $(3,-5)$

(4) $(4,0)$

26 ¿Cuál es el producto de $\dfrac{4x}{x-1}$ y $\dfrac{x^2-1}{3x+3}$ expresado en la forma más simple?

(1) $\dfrac{4x}{3}$

(2) $\dfrac{4x^2}{3}$

(3) $\dfrac{4x^2}{3(x+1)}$

(4) $\dfrac{4(x+1)}{3}$

27 ¿Cuál expresión es equivalente a $(3x^2)^3$?

   (1) $9x^5$ (3) $27x^5$

   (2) $9x^6$ (4) $27x^6$

28 Ryan calcula que el volumen de un recipiente de palomitas de maíz es 282 pulgadas cúbicas. El volumen real del recipiente de palomitas de maíz es 289 pulgadas cúbicas. ¿Cuál es el error relativo de la medida obtenida por Ryan a la *milésima más cercana*?

   (1) 0.024   (3) 0.096

   (2) 0.025   (4) 1.025

29 En el diagrama del $\triangle ABC$ que se muestra a continuación, $BC = 10$ y $AB = 16$.
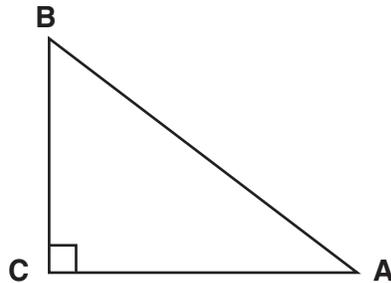
¿Cuál es la medida del ángulo agudo más grande del triángulo a la *décima más cercana de grado*?

   (1) 32.0   (3) 51.3

   (2) 38.7   (4) 90.0

30 Las caras de un cubo están numeradas del 1 al 6. Si el cubo se tira una vez, ¿cuál es la probabilidad de que se obtenga un número primo o un número divisible entre 2?

(1) $\dfrac{6}{6}$　　　　　(3) $\dfrac{4}{6}$

(2) $\dfrac{5}{6}$　　　　　(4) $\dfrac{1}{6}$

Parte II

Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 2 puntos. Indique claramente los pasos necesarios, incluyendo las sustituciones apropiadas de fórmulas, diagramas, gráficos, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta que no muestre el trabajo recibirá sólo un punto.   [6]

31 En un partido de hockey sobre hielo, tomó 0.8 segundos que el disco de hockey recorriera 89 pies hasta la línea de gol. Determine la velocidad promedio del disco en pies por segundo.

32 Brianna está usando las dos agujas giratorias que se muestran abajo para jugar su nuevo juego de mesa. Ella hace girar cada aguja giratoria una vez. Brianna usa la primera aguja giratoria para determinar cuántos espacios moverse. Ella usa la segunda aguja giratoria para determinar si avanzará o retrocederá al moverse esos espacios.
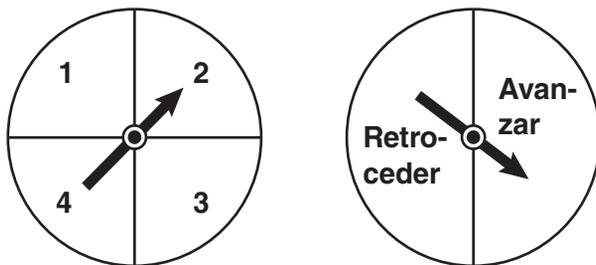
Encuentre la probabilidad de que Brianna se mueva *menos de* cuatro espacios y *retroceda*.

33 El equipo de baloncesto de una escuela secundaria está integrado por doce jugadores. Las camisetas del equipo están numeradas del 1 al 12. Los jugadores que usan las camisetas numeradas 3, 6, 7, 8 y 11 son los únicos jugadores que comienzan el partido. Usando notación de conjuntos, indique el complemento de este subconjunto.

Parte III

Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 3 puntos. Indique claramente los pasos necesarios, incluyendo las sustituciones apropiadas de fórmulas, diagramas, gráficos, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta, que no muestre el trabajo, recibirá solamente un punto.   [9]

34 Exprese el producto de $3\sqrt{20}\left(2\sqrt{5} - 7\right)$ en la forma radical más simple.

35 En el eje de coordenadas siguiente, trace el gráfico de $y = 2^x$ en el intervalo $-1 \leq x \leq 3$.

Intersecará este gráfico en algún momento el eje x? Justifique su respuesta.
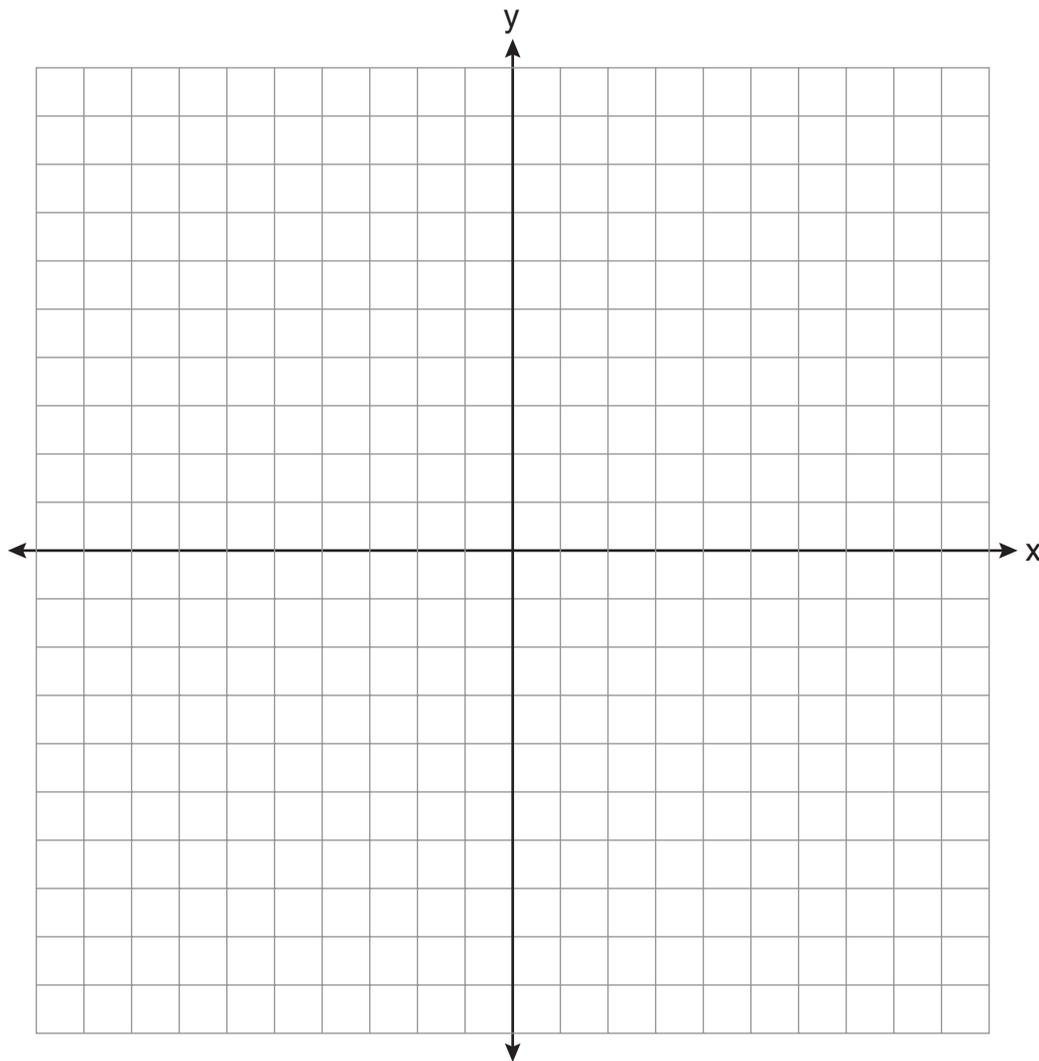
36 Escriba una ecuación que represente la línea que pasa por los puntos (5,4) y (−5,0).

Parte IV

Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 4 puntos. Indique claramente los pasos necesarios, incluyendo las sustituciones apropiadas de fórmulas, diagramas, gráficos, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta que no muestre el trabajo recibirá solamente un punto. [12]

37 El costo de 3 marcadores y 2 lápices es $1.80. El costo de 4 marcadores y 6 lápices es $2.90. ¿Cuál es el costo de *cada* artículo? Incluya las unidades apropiadas en su respuesta.

38 Se encuestó a veinte estudiantes en cuanto al número de días que jugaron afuera en una semana. Los resultados de esta encuesta se muestran a continuación.

$$\{6, 5, 4, 3, 0, 7, 1, 5, 4, 4, 3, 2, 2, 3, 2, 4, 3, 4, 0, 7\}$$

Complete la siguiente tabla de frecuencias para estos datos.

Número de días afuera

Intervalo	Conteo	Frecuencia
0–1		
2–3		
4–5		
6–7		

Complete la siguiente tabla de frecuencias acumulativas usando estos datos.

Número de días afuera

Intervalo	Frecuencia acumulativa
0–1	
0–3	
0–5	
0–7	

**Esta pregunta continúa en la siguiente página.**

En la siguiente cuadrícula, cree un histograma de frecuencias acumulativas basándose en la tabla que creó en la página anterior.
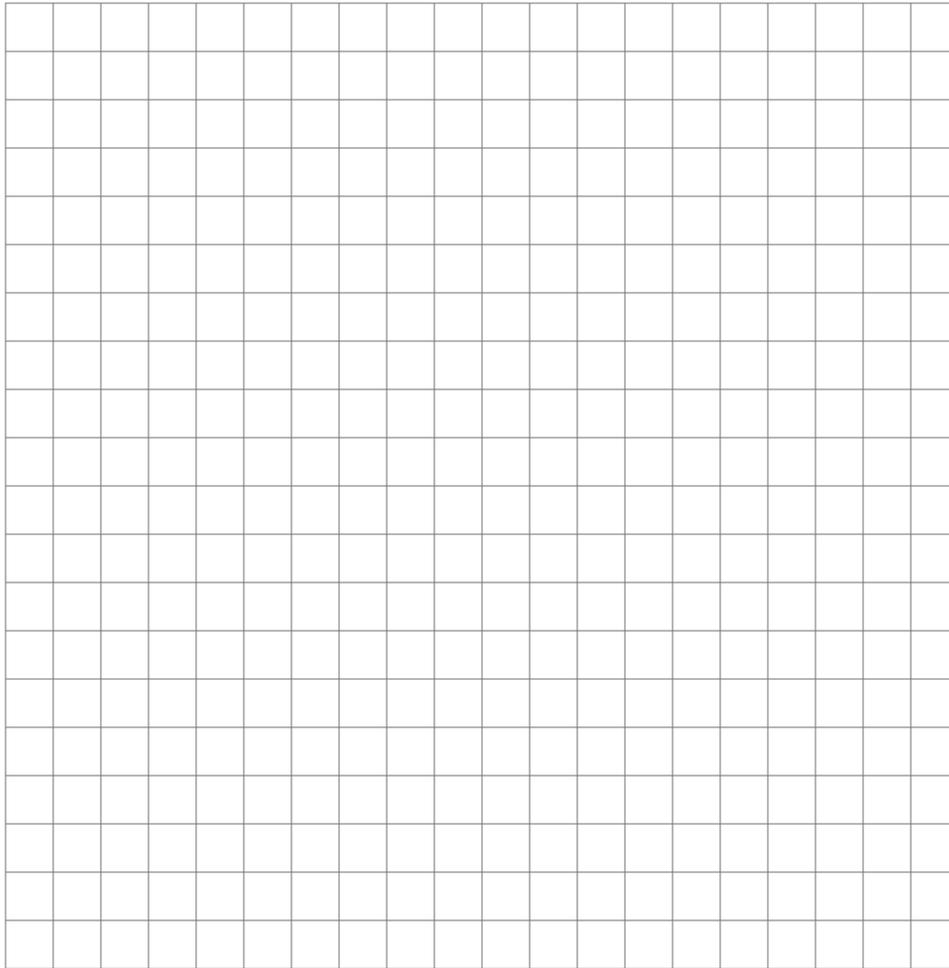
39 En el siguiente eje de coordenadas, resuelva gráficamente el siguiente sistema de ecuaciones e indique las coordenadas de todos los puntos del conjunto de soluciones.

$$y = x^2 + 4x - 5$$

$$y = x - 1$$
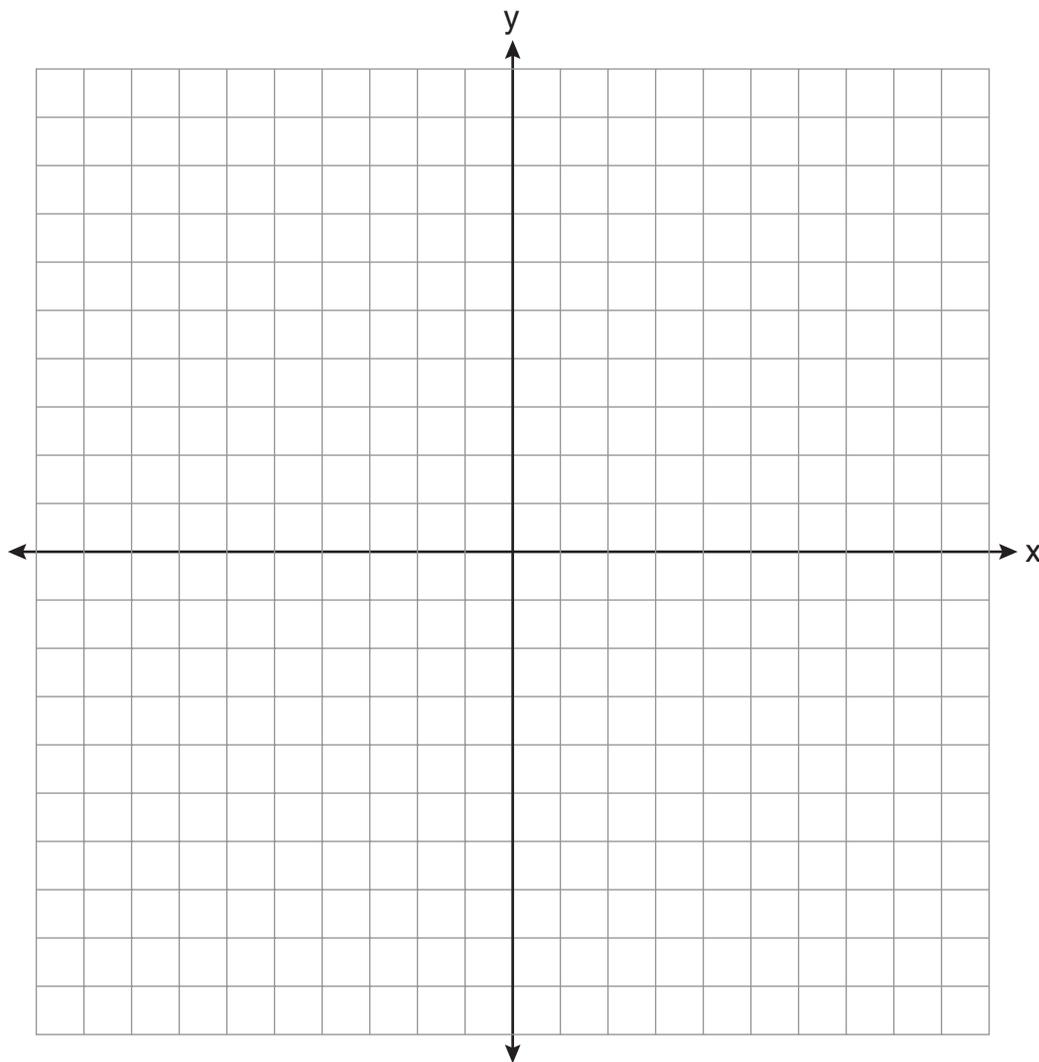
Hoja de Referencia

Razones trigonométricas	sen A	$= \dfrac{opuesto}{hipotenusa}$
	cos A	$= \dfrac{adyacente}{hipotenusa}$
	tan A	$= \dfrac{opuesto}{adyacente}$

Área	trapecio	$A = \frac{1}{2}h(b_1 + b_2)$

Volumen	cilindro	$V = \pi r^2 h$

Área de superficie	prisma rectangular	$SA = 2lw + 2hw + 2lh$
	cilindro	$SA = 2\pi r^2 + 2\pi rh$

Geometría analítica	$m = \dfrac{\Delta y}{\Delta x} = \dfrac{y_2 - y_1}{x_2 - x_1}$

ÁLGEBRA INTEGRADA

Miércoles, 13 de agosto de 2008 – 8:30 to 11:30 a.m., solamente

HOJA DE RESPUESTAS

Estudiante . . . . .Sexo: ❏Masculino ❏Femenino Grade . . . .

Profesor . . . . Escuela . . . .

Sus respuestas para la Parte I debe apuntarlas en esta hoja de respuestas.

Parte I

Conteste todas las 30 preguntas de esta parte.

1	9	17	25 . . . .
2	10	18	26 . . . .
3	11	19	27 . . . .
4	12	20	28 . . . .
5	13	21	29 . . . .
6	14	22	30 . . . .
7	15	23	
8	16	24	

Sus respuestas para las Partes II, III y IV deben escribirse en el folleto del examen.

La declaración de abajo debe ser firmada cuando usted haya completado el examen.

Al terminar este examen declaro no haber tenido conocimiento ilegal previo sobre las preguntas del mismo o sus respuestas. Declaro también que durante el examen no di ni recibí ayuda para responder las preguntas.

_____

Firma

INTEGRATED ALGEBRA SPANISH EDITION

	INTEGRATED ALGEBRA			
Question	**Maximum Credit**	**Credits Earned**	**Rater's/Scorer's Initials**	
Part I 1–30	60			
Part II 31	2			
32	2			
33	2			
Part III 34	3			
35	3			
36	3			
Part IV 37	4			
38	4			
39	4			
Maximum Total	87			

Total Raw Score   **Checked by**   **Scaled Score** (from conversion chart)

Rater's/Scorer's Name
(minimum of three)

Desprender por la línea perforada

Desprender por la línea perforada

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, August 13, 2008 — 8:30 to 11:30 a.m., only

SCORING KEY

Mechanics of Rating

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

Use only *red* ink or *red* pencil in rating Regents papers. Do *not* attempt to correct the student's work by making insertions or changes of any kind. 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. On the back of the student's detachable answer sheet, raters must enter their initials in the boxes next to the questions they have scored and also write their name in the box under the heading "Rater's/Scorer's Name."

Raters should record the student's scores for all questions and the total raw score on the student's detachable answer sheet. Then the student's total raw score should be converted to a scaled score by using the conversion chart that will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Wednesday, August 13, 2008. The student's scaled score should be entered in the box provided on the student's detachable answer sheet. The scaled score is the student's final examination score.

Part I

Allow a total of 60 credits, 2 credits for each of the following. Allow credit if the student has written the correct answer instead of the numeral 1, 2, 3, or 4.

(1) 4	(9) 4	(17) 2	(25) 4
(2) 2	(10) 2	(18) 3	(26) 1
(3) 1	(11) 2	(19) 3	(27) 4
(4) 3	(12) 2	(20) 4	(28) 1
(5) 4	(13) 1	(21) 4	(29) 3
(6) 2	(14) 3	(22) 4	(30) 2
(7) 2	(15) 2	(23) 2	
(8) 3	(16) 1	(24) 1	

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 http://www.emsc.nysed.gov/osa/ and select the link "Examination 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.

General Rules for Applying Mathematics Rubrics

I. General Principles for Rating

The rubrics for the constructed-response questions on the Regents Examination in Integrated Algebra 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 Integrated Algebra*, use their own professional judgment, confer with other mathematics teachers, and/or contact the consultants at 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, 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 any response. 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. A response with one conceptual error can receive no more than half credit.

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.

If a response shows two (or more) different major conceptual errors, it should be considered completely incorrect and receive no credit.

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: i.e., awarding half credit for the conceptual error and deducting 1 credit for each mechanical error (maximum of two deductions for mechanical errors).

Part II

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

(31)   **[2]** 111.25 or $111\frac{1}{4}$, and appropriate work is shown.

      [1] Appropriate work is shown, but the answer is rounded.

or

      [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] 111.25, 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]** $\frac{3}{8}$ or 0.375, and appropriate work is shown.

      [1] Appropriate work is shown, but the answer is rounded.

or

      [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] $\frac{3}{8}$, 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.

(33)   **[2]** {1, 2, 4, 5, 9, 10, 12} or {*x* | *x* = 1, 2, 4, 5, 9, 10, 12}

[1] 1, 2, 4, 5, 9, 10, 12, but set notation is not used.

or

[1] Set notation is used and at least five correct numbers (but not the entire set) are written.

[0] Set notation is used, but fewer than five correct numbers are written.

or

[0] {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12}

or

[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 three credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(34)   **[3]** $60 - 42\sqrt{5}$, and appropriate work is shown.

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

or

[2] Appropriate work is shown, but only one term is expressed in simplest radical form.

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

or

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

or

[1] Appropriate work is shown, but the answer is expressed as a decimal.

or

[1] The distributive property is correctly applied, yielding $6\sqrt{100} - 21\sqrt{20}$, but no further correct work is shown.

or

[1] $60 - 42\sqrt{5}$, 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) **[3]** A correct graph is drawn over the given interval, the function is identified as one that will not intersect the *x*-axis, and an appropriate justification is given.

  [2] Appropriate work is shown, but one graphing error is made, but an appropriate answer and justification are given.

  or

  [2] A correct graph is drawn over the given interval, but no further correct work is shown.

  [1] Appropriate work is shown, but two or more graphing errors are made, but an appropriate answer and justification are given.

  or

  [1] Appropriate work is shown, but one conceptual error is made, but an appropriate answer and justification are given.

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

(36) **[3]** $y - 4 = \frac{2}{5}(x - 5)$ or $y = \frac{2}{5}x + 2$ or an equivalent equation, and appropriate work is shown.

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

  or

  [2] Appropriate work is shown to find the slope and *y*-intercept, but an equation is not written or is written incorrectly.

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

  or

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

  or

  [1] Appropriate work is shown to find the slope or *y*-intercept, but an equation is not written or is written incorrectly.

  or

  [1] $y - 4 = \frac{2}{5}(x - 5)$ or $y = \frac{2}{5}x + 2$, 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 IV

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

(37)   **[4]** A marker = $.50 or 50¢ and a pencil = $.15 or 15¢, and appropriate work is shown, such as solving a system of equations algebraically or by trial and error with at least three trials and appropriate checks.

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

or

[3] Appropriate work is shown, but only the cost of a marker or a pencil is found, but appropriate units are written.

or

[3] Appropriate work is shown, but the correct answers are not labeled or are labeled incorrectly, but appropriate units are written.

or

[3] Appropriate work is shown, and the answers are labeled correctly, but the units are written incorrectly, such as a marker = .50¢.

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

or

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

or

[2] Appropriate work is shown, but the answers are not labeled or are labeled incorrectly, and the units are not written or are written incorrectly.

or

[2] An incorrect system of equations is written, but two appropriate answers are found and labeled, and appropriate units are written.

or

[2] The trial-and-error method is used to find the correct answers, but only two trials and appropriate checks are shown.

or

[2] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but no answers are found.

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

or

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

or

[1] The trial-and-error method is used to find the correct answers, but only one trial with an appropriate check is shown.

or

[1] A marker = $.50 or 50¢ and a pencil = $.15 or 15¢, but no work is shown.

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

or

[0] Either the correct price of a marker or a pencil is stated, but no work is shown.

or

[0] The correct prices of the marker and pencil are found, but no work is shown, and the answers are not labeled or are labeled incorrectly.

or

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

[OVER]

(38) **[4]** The tables are completed correctly, and a correct cumulative frequency histogram is drawn and labeled.

[3] The tables are completed correctly, but one graphing error is made on the cumulative frequency histogram.

or

[3] The tables are completed with one error, but an appropriate cumulative frequency histogram is drawn and labeled.

or

[3] The tables are completed correctly and a correct cumulative frequency histogram is drawn, but the histogram is not labeled or is labeled incorrectly.

[2] The tables are completed with two errors, but an appropriate cumulative frequency histogram is drawn and labeled.

or

[2] Appropriate work is shown, but one conceptual error is made, such as drawing a frequency histogram or a cumulative frequency bar graph.

or

[2] The tables are completed correctly, but no further correct work is shown.

[1] Appropriate work is shown, but one conceptual error and one graphing or labeling error are made on the cumulative frequency histogram.

or

[1] The frequency table is completed correctly, 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.

(39) **[4]** Appropriate graphs are drawn, and (1,0) and (–4,–5) are stated.

[3] Appropriate work is shown, but one graphing error is made, but appropriate solutions are stated.

or

[3] Both graphs are drawn correctly, but only one solution is stated.

[2] Appropriate work is shown, but two or more graphing errors are made, but appropriate solutions are stated.

or

[2] Appropriate work is shown, but one conceptual error is made, such as graphing a line instead of a parabola, but appropriate solutions are stated.

or

[2] Both graphs are drawn correctly, but no solutions are stated.

or

[2] (1,0) and (–4,–5) are found as the points of intersection, but a method other than graphic is used.

[1] The system is solved algebraically for only the x values, y values, or the coordinates of one point.

or

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

or

[1] One graph is drawn correctly, but no further correct work is shown.

or

[1] (1,0) and (–4,–5) are stated, but no work is shown.

[0] (1,0) or (–4,–5) is stated, 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 Learning Standards

Key Ideas	Item Numbers
Number Sense and Operations	2, 16, 34
Algebra	1, 3, 5, 6, 8, 9, 10, 11, 12, 17, 19, 20, 21, 23, 24, 25, 26, 27, 29, 33, 36, 37
Geometry	7, 13, 15, 35, 39
Measurement	14, 28, 31
Probability and Statistics	4, 18, 22, 30, 32, 38

Regents Examination in Integrated Algebra

August 2008

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

The *Chart for Determining the Final Examination Score for the August 2008 Regents Examination in Integrated Algebra* **will be posted on the Department's web site** **http://www.emsc.nysed.gov/osa/** **on Wednesday, August 13, 2008. Conversion charts provided for previous administrations of the Integrated Algebra examination must NOT be used to determine students' final scores for this administration.**

Submitting 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 www.emsc.nysed.gov/osa/exameval.
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.

University of the State of New York
State Education Department

Regents Examination in Integrated Algebra
August 2008

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

Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score
87	100	65	84	43	76	21	53
86	98	64	84	42	75	20	52
85	97	63	84	41	74	19	50
84	96	62	83	40	74	18	48
83	95	61	83	39	73	17	46
82	94	60	83	38	72	16	45
81	93	59	82	37	71	15	43
80	92	58	82	36	71	14	41
79	91	57	82	35	70	13	39
78	91	56	81	34	69	12	37
77	90	55	81	33	68	11	34
76	89	54	81	32	67	10	32
75	89	53	80	31	66	9	29
74	88	52	80	30	65	8	27
73	88	51	79	29	64	7	24
72	87	50	79	28	63	6	21
71	87	49	79	27	61	5	18
70	86	48	78	26	60	4	15
69	86	47	78	25	59	3	12
68	86	46	77	24	57	2	8
67	86	45	77	23	56	1	4
66	85	44	76	22	55	0	0

To determine the student's final examination 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.

All student answer papers that receive a scale score of 60 through 64 **must** be scored a second time to ensure the accuracy of the score. For the second scoring, a different committee of teachers may score the student's paper or the original committee may score the paper, except that no teacher may score the same open-ended questions that he/she scored in the first rating of the paper.

Because scale scores corresponding to raw scores in the conversion chart change from one examination 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 Integrated Algebra.