SPANISH EDITION
INTEGRATED ALGEBRA
WEDNESDAY, JANUARY 26, 2011
1:15 to 4:15 P.M., ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

ÁLGEBRA INTEGRADA

Miércoles, 26 de enero de 2011 — 1:15 a 4:15 p.m., solamente

Nombre del estudiante: _____

Nombre de la escuela: _____

Escriba en letra de molde su nombre y el nombre de su escuela en las líneas de arriba. Luego pase a la última página de este folleto; esta es la hoja de respuestas para la Parte I. Doble la última página a lo largo de las perforaciones y, despacio y con mucho cuidado, desprenda la hoja de respuestas. Luego llene el encabezado de su hoja de respuestas.

Este examen tiene cuatro partes, con un total de 39 preguntas. Usted debe responder todas las preguntas de este examen. Escriba sus respuestas a las preguntas de selección múltiple de la Parte I en la hoja de respuestas separada. Escriba sus respuestas a las preguntas de las Partes II, III y IV directamente en este folleto. Todo el trabajo debe ser realizado con bolígrafo de tinta permanente, con excepción de los gráficos y los dibujos, que deben hacerse con lápiz grafito. Indique claramente los pasos necesarios, incluyendo apropiadamente las sustituciones de fórmulas, diagramas, gráficos, tablas, etc.

Las fórmulas que podría necesitar para responder a ciertas preguntas se encuentran al final del examen. Esta hoja está perforada para que pueda desprenderla de este folleto.

No se permite el uso de papel de borrador para ninguna parte de este examen, pero puede usar los espacios en blanco en este folleto como papel de borrador. Una hoja perforada de papel cuadriculado de borrador está provista al final de este folleto para cualquier pregunta para la cual sea útil un gráfico, aunque no se requiere. Puede desprender esta hoja del folleto. Todo trabajo realizado en esta hoja de papel cuadriculado de borrador *no* será calificado.

Cuando haya terminado el examen, deberá firmar la declaración impresa en la hoja de respuestas, indicando que no tenía conocimiento ilegal previo de las preguntas o respuestas del examen y que no ha dado ni recibido asistencia alguna para responder a las preguntas durante el examen. Su hoja de respuestas no será aceptada si no firma dicha declaración.

Aviso...

Se le debe proporcionar una calculadora para hacer gráficos y una regla para que utilice mientras realiza el 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

Responda las 30 preguntas de esta parte. Cada respuesta correcta recibirá 2 créditos. No se dará ningún crédito parcial. Para cada pregunta, escriba en la hoja de respuestas separada el número que precede a la palabra o expresión que mejor complete el enunciado o que mejor responda a la pregunta. [60]

Utilice este espacio para sus cálculos.

1 Dado:

$X = \{1, 2, 3, 4\}$
$Y = \{2, 3, 4, 5\}$
$Z = \{3, 4, 5, 6\}$

¿Cuál es la intersección de los conjuntos X, Y y Z?

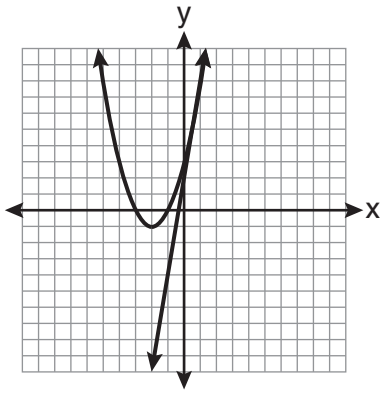
(1) $\{3, 4\}$

(2) $\{2, 3, 4\}$

(3) $\{3, 4, 5\}$

(4) $\{1, 2, 3, 4, 5, 6\}$

2 ¿Qué gráfico se podría utilizar para encontrar la solución al sistema de ecuaciones $y = 2x + 6$ y $y = x^2 + 4x + 3$?



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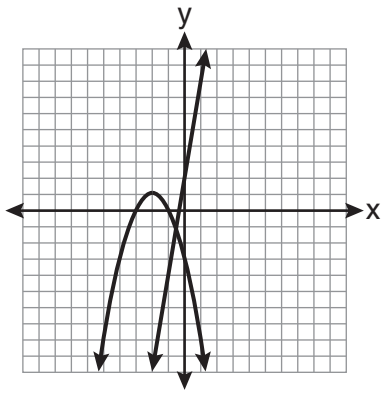

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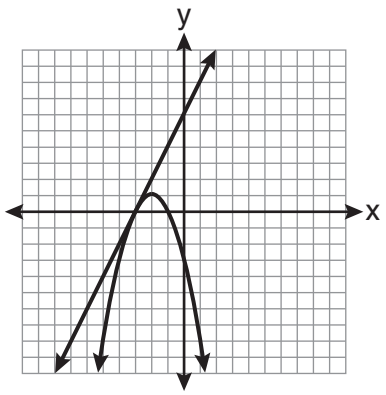

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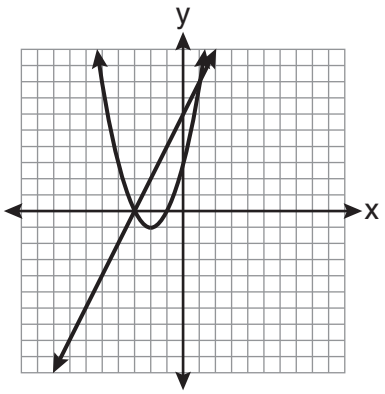
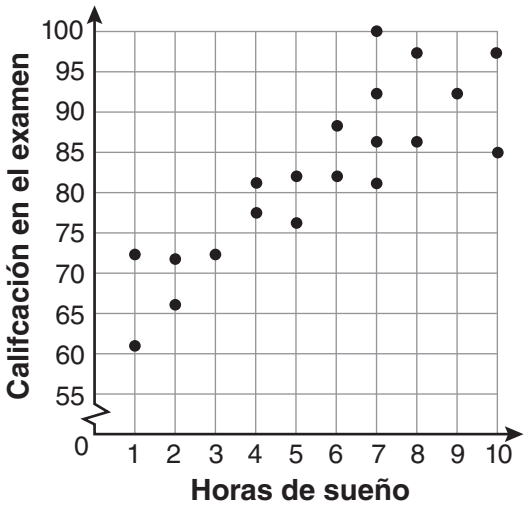


(4)

Utilice este espacio para sus cálculos.

3 ¿Cuál es la relación entre las variables independientes y dependientes en el siguiente diagrama de dispersión?



(1) correlación no definida
(2) correlación negativa
(3) correlación positiva
(4) sin correlación

4 Tim comió cuatro galletas más que Alice. Bob comió el doble de galletas que Tim. Si x representa la cantidad de galletas que comió Alice, ¿qué expresión representa la cantidad de galletas que comió Bob?

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

5 ¿Qué relación es una función?

(1) $\{(\frac{3}{4},0), (0,1), (\frac{3}{4},2)\}$
(2) $\{(-2,2), (-\frac{1}{2},1), (-2,4)\}$
(3) $\{(-1,4), (0,5), (0,4)\}$
(4) $\{(2,1), (4,3), (6,5)\}$

Utilice este espacio para sus cálculos.

6 ¿Cuál es el valor de x en la ecuación $2(x - 4) = 4(2x + 1)$?

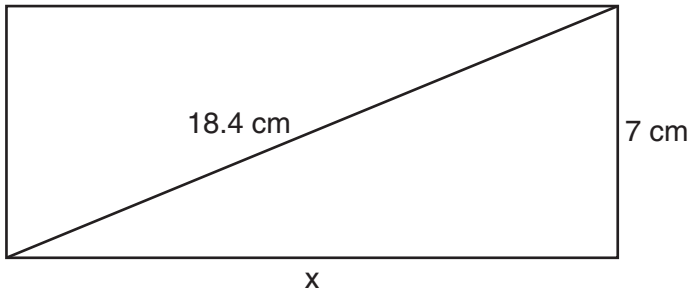
(1) -2

(2) 2

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

(4) $\frac{1}{2}$

7 El rectángulo que se muestra a continuación tiene una diagonal de 18.4 cm y un ancho de 7 cm.



Al *centímetro más cercano*, ¿cuál es la longitud, x, del rectángulo?

(1) 11

(2) 17

(3) 20

(4) 25

8 Cuando $a^3 - 4a$ se factoriza por completo, el resultado es

(1) $(a - 2)(a + 2)$

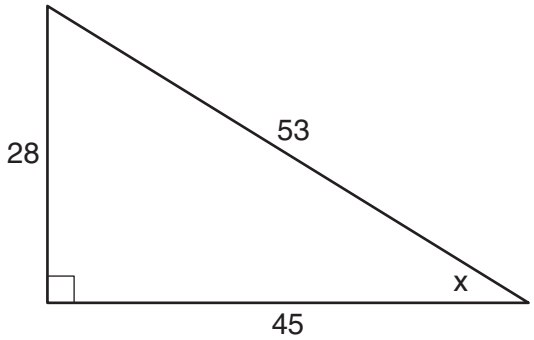
(2) $a(a - 2)(a + 2)$

(3) $a^2(a - 4)$

(4) $a(a - 2)^2$

Utilice este espacio para sus cálculos.

9 ¿Qué razón representa el seno de x en el triángulo recto que se muestra a continuación?



(1) $\frac{28}{53}$

(2) $\frac{28}{45}$

(3) $\frac{45}{53}$

(4) $\frac{53}{28}$

10 ¿Cuál es el valor de la expresión $(a^3 + b^0)^2$ cuando $a = -2$ y $b = 4$?

(1) 64

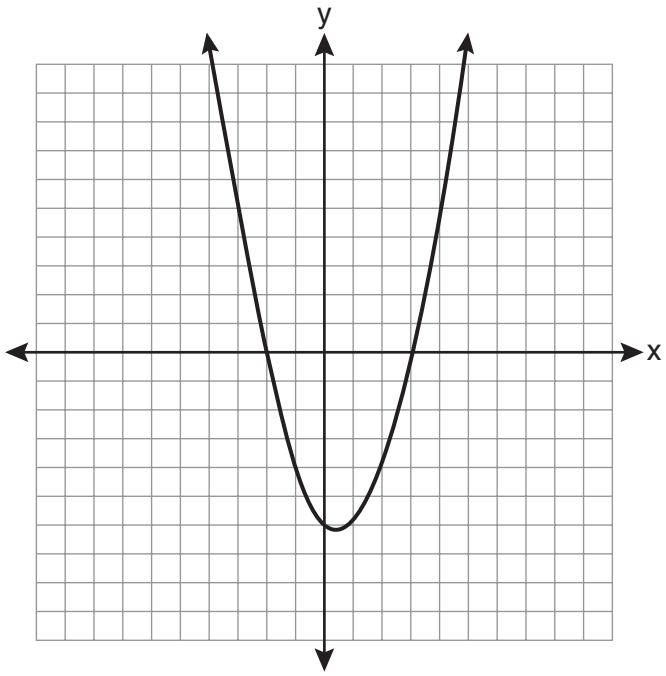
(2) 49

(3) –49

(4) –64

Utilice este espacio para sus cálculos.

11 Un estudiante graficó correctamente la parábola que se muestra a continuación para resolver una ecuación cuadrática dada.



¿Cuáles son las raíces de la ecuación cuadrática que están asociadas con este gráfico?

(1) –6 y 3

(2) –6 y 0

(3) –3 y 2

(4) –2 y 3

12 ¿Qué valor de x es la solución de la ecuación $\frac{2}{3}x + \frac{1}{2} = \frac{5}{6}$?

(1) $\frac{1}{2}$

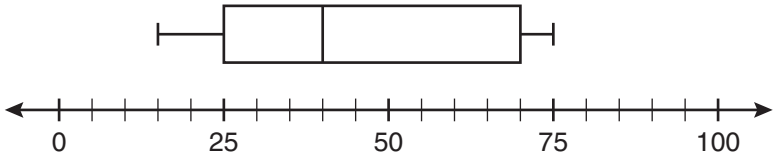
(2) 2

(3) $\frac{2}{3}$

(4) $\frac{3}{2}$

Utilice este espacio para sus cálculos.

13 ¿Cuál es el rango de los datos representados en el diagrama de caja y bigotes que se muestra a continuación?



(1) 40
(2) 45
(3) 60
(4) 100

14 ¿Qué ecuación ilustra la propiedad asociativa?

(1) $x + y + z = x + y + z$
(2) $x(y + z) = xy + xz$
(3) $x + y + z = z + y + x$
(4) $(x + y) + z = x + (y + z)$

15 Josh y Mae trabajan en un puesto de venta de comida. Cada uno gana \$8 por hora. Josh trabajó tres horas más que Mae. Si Josh y Mae ganan un total de \$120, ¿cuántas horas trabajó Josh?

(1) 6
(2) 9
(3) 12
(4) 15

Utilice este espacio para sus cálculos.

16 ¿Qué conjunto de datos describe una situación que puede clasificarse como cuantitativa?

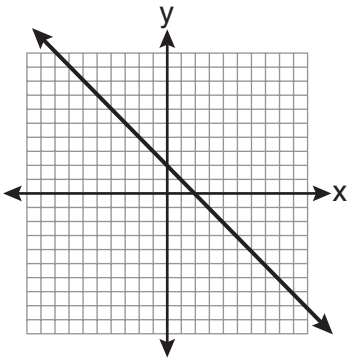
(1) los números de teléfono en una guía telefónica

(2) las direcciones de los estudiantes de la Escuela Secundaria Hopkins

(3) los códigos postales de los residentes de la ciudad de Búfalo, Nueva York

(4) el tiempo que le toma a cada uno de los estudiantes del Sr. Harper finalizar un examen

17 ¿Cuál es el gráfico que representa $y = |x| + 2$?



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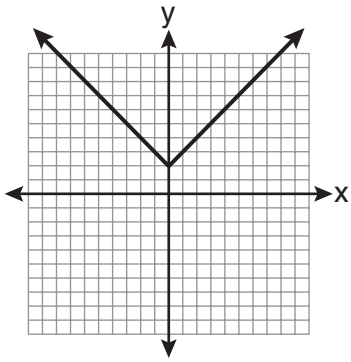

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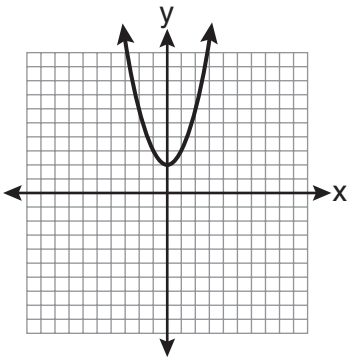

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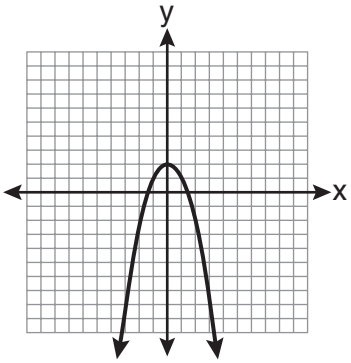


(4)

Utilice este espacio para sus cálculos.

18 Las calificaciones de Sam en once exámenes de química fueron 90, 85, 76, 63, 94, 89, 81, 76, 78, 69 y 97. ¿Qué enunciado es verdadero con respecto a las medidas de tendencia central?

(1) media > modo
(2) media < mediana
(3) modo > mediana
(4) mediana = media

19 ¿Qué notación por intervalos representa el conjunto de todos los números reales mayores que 2 y menores o iguales que 20?

(1) (2,20)
(2) (2,20]
(3) [2,20)
(4) [2,20]

20 ¿Cuál es la suma de $\frac{3}{2x}$ y $\frac{7}{4x}$?

(1) $\frac{21}{8x^2}$
(2) $\frac{13}{4x}$
(3) $\frac{10}{6x}$
(4) $\frac{13}{8x}$

21 ¿Cómo se expresa $3\sqrt{2} + \sqrt{8}$ en la forma radical más simple?

(1) $3\sqrt{10}$
(2) $3\sqrt{16}$
(3) $5\sqrt{2}$
(4) $7\sqrt{2}$

Utilice este espacio para sus cálculos.

22 ¿Cuál es la pendiente de la línea cuya ecuación es $3x - 7y = 9$?

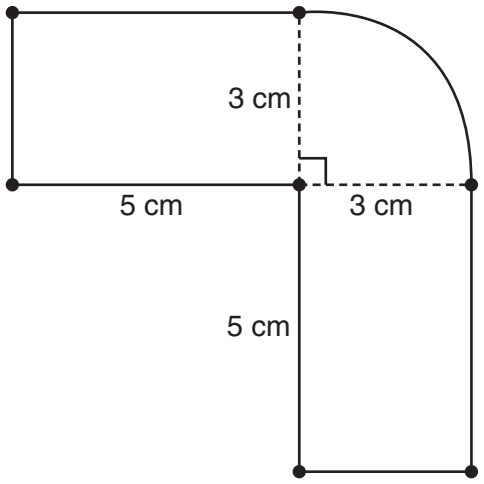
(1) $-\frac{3}{7}$

(2) $\frac{3}{7}$

(3) $-\frac{7}{3}$

(4) $\frac{7}{3}$

23 La siguiente figura se compone de dos rectángulos y un cuarto de círculo.



¿Cuál es el área de esta figura, al *centímetro cuadrado más cercano?*

(1) 33

(2) 37

(3) 44

(4) 58

24 La expresión $\frac{(10w^3)^2}{5w}$ es equivalente a

(1) $2w^5$

(2) $2w^8$

(3) $20w^5$

(4) $20w^8$

Utilice este espacio para sus cálculos.

25 Si $\frac{ey}{n} + k = t$, ¿qué es y en términos de e, n, k y t?

(1) $y = \frac{tn + k}{e}$

(2) $y = \frac{tn - k}{e}$

(3) $y = \frac{n(t + k)}{e}$

(4) $y = \frac{n(t - k)}{e}$

26 ¿Cuál es el resultado cuando $2x^2 + 3xy - 6$ se le resta a $x^2 - 7xy + 2$?

(1) $-x^2 - 10xy + 8$

(2) $x^2 + 10xy - 8$

(3) $-x^2 - 4xy - 4$

(4) $x^2 - 4xy - 4$

27 ¿Cuál es la ecuación del eje de simetría de la parábola representada por $y = -x^2 + 6x - 4$?

(1) $x = 3$

(2) $y = 3$

(3) $x = 6$

(4) $y = 6$

28 ¿Qué ecuación tiene raíces de –3 y 5?

(1) $x^2 + 2x - 15 = 0$

(2) $x^2 - 2x - 15 = 0$

(3) $x^2 + 2x + 15 = 0$

(4) $x^2 - 2x + 15 = 0$

Utilice este espacio para sus cálculos.

29 Una ruleta dividida de forma igual en ocho sectores numerados se gira 20 veces. La siguiente tabla muestra la cantidad de veces que la flecha cayó en cada sector numerado.

Sector de la ruleta	Cantidad de veces
1	2
2	3
3	2
4	3
5	4
6	2
7	3
8	1

Basándose en la tabla, ¿cuál es la probabilidad empírica de que la ruleta caiga en un número primo la próxima vez que se gire?

(1) $\frac{9}{20}$

(2) $\frac{11}{20}$

(3) $\frac{12}{20}$

(4) $\frac{14}{20}$

30 ¿Qué expresión representa $\frac{x^2 - x - 6}{x^2 - 5x + 6}$ en la forma más simple?

(1) $\frac{x + 2}{x - 2}$

(2) $\frac{-x - 6}{-5x + 6}$

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

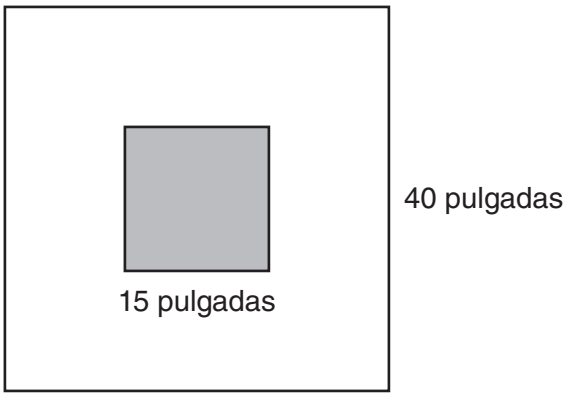
(4) -1

Parte II

Responda las 3 preguntas de esta parte. Cada respuesta correcta recibirá 2 créditos. Indique claramente los pasos necesarios, incluyendo apropiadamente las sustituciones de fórmulas, diagramas, gráficos, tablas, etc. Para todas las preguntas en esta parte, una respuesta numérica correcta sin demostrar el trabajo recibirá solamente 1 crédito. [6]

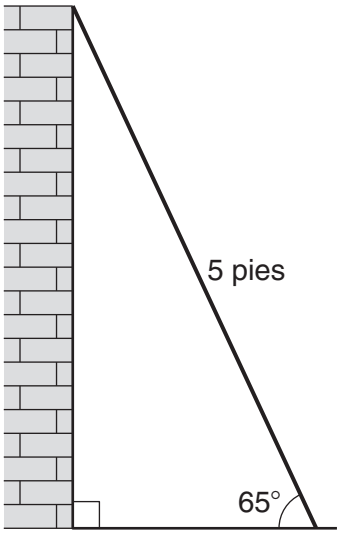
31 Roberta necesita cinta para un proyecto de manualidades. La cinta se vende a $3.75 la yarda. Calcule el costo, en dólares, para 48 pulgadas de cinta.

32 El siguiente tablero cuadrado de dardos tiene un lado que mide 40 pulgadas. La parte sombreada en el centro es un cuadrado cuyo lado mide 15 pulgadas. Un dardo que se lanza al tablero tiene las mismas probabilidades de caer en cualquier punto del tablero.



Encuentre la probabilidad de que un dardo, al pegarle al tablero, *no* caerá en el área sombreada.

33 Como se muestra en el siguiente diagrama, una escalera de 5 pies de largo está apoyada sobre una pared a un ángulo de 65° con respecto al piso. Calcule, a la *décima de un pie más cercana*, la distancia desde la pared hasta la base de la escalera.



Parte III

Responda las 3 preguntas de esta parte. Cada respuesta correcta recibirá 3 créditos. Indique claramente los pasos necesarios, incluyendo apropiadamente las sustituciones de fórmulas, diagramas, gráficos, tablas, etc. Para todas las preguntas en esta parte, una respuesta numérica correcta sin demostrar el trabajo recibirá solamente 1 crédito. [9]

34 Una línea que tiene una pendiente de $\frac{3}{4}$ pasa a través del punto (–8,4).

Escriba la ecuación de esta línea en forma pendiente-intersección.

35 Los resultados de los exámenes de 18 estudiantes en la clase del Sr. Mosher se indican a continuación:

86, 81, 79, 71, 58, 87, 52, 71, 87, 87, 93, 64, 94, 81, 76, 98, 94, 68

Complete la siguiente tabla de frecuencias.

Intervalo	Cuenta	Frecuencia
51–60		
61–70		
71–80		
81–90		
91–100		

Dibuje y marque un histograma de frecuencias en la siguiente cuadrícula.

36 Resuelva algebraicamente el valor de x: $\frac{x+2}{6} = \frac{3}{x-1}$

Parte IV

Responda las 3 preguntas de esta parte. Cada respuesta correcta recibirá 4 créditos. Indique claramente los pasos necesarios, incluyendo apropiadamente las sustituciones de fórmulas, diagramas, gráficos, tablas, etc. Para todas las preguntas en esta parte, una respuesta numérica correcta sin demostrar el trabajo recibirá solamente 1 crédito. [12]

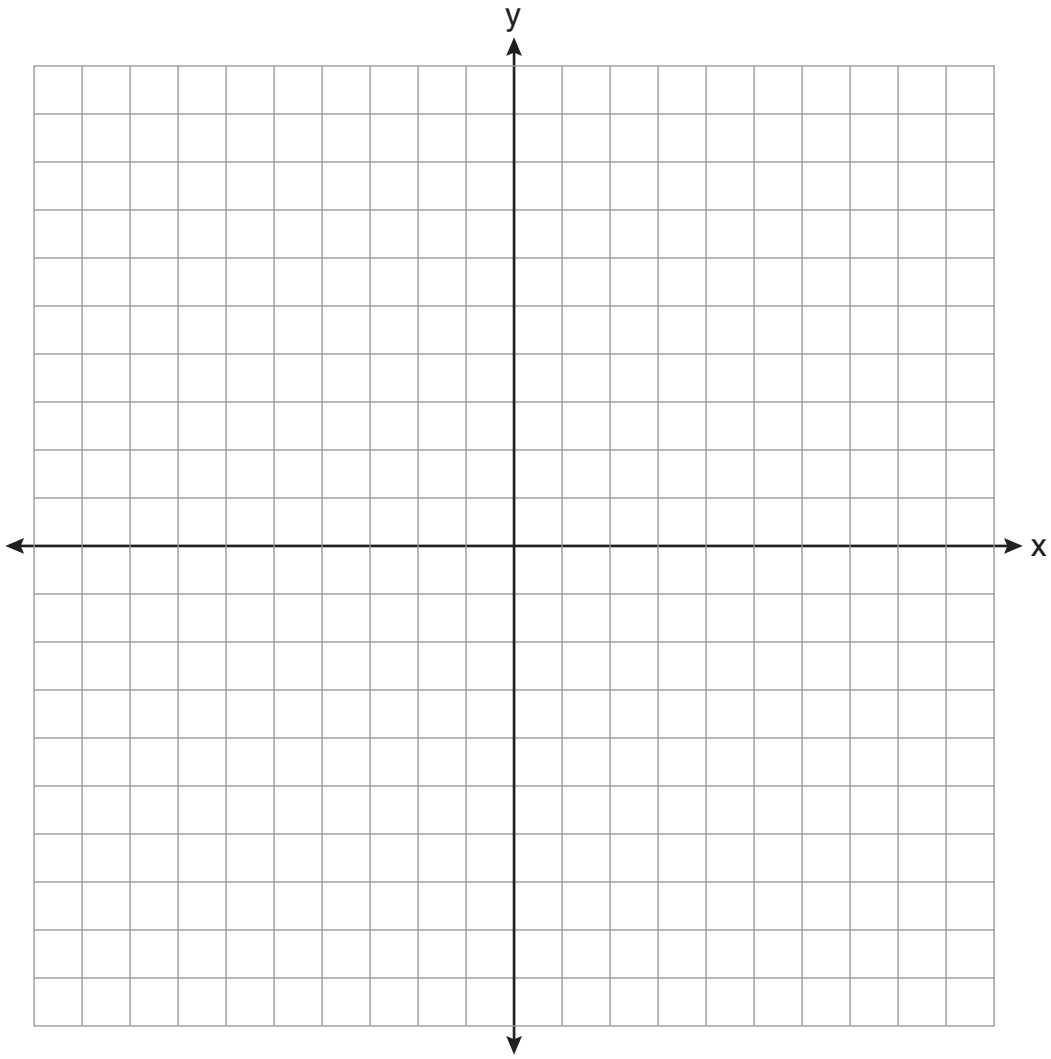
37 Una compañía petrolera distribuye aceite en una lata de metal con forma de cilindro que tiene un radio real de 5.1 cm y una altura de 15.1 cm. Un empleado midió erróneamente el radio como 5 cm y la altura como 15 cm. Determine el error relativo al calcular el área de la superficie, a la *milésima más cercana*.

38 El club Booster recaudó $30,000 para un fondo de deportes. No se depositará más dinero en ese fondo. Cada año, el fondo disminuirá un 5%. Determine la cantidad de dinero, al *centavo más cercano*, que quedará en el fondo de deportes después de 4 años.

39 Grafique el siguiente sistema de desigualdades en el conjunto de ejes que se muestra a continuación y marque el conjunto de solución S.

$$y > -x + 2$$

$$y \leq \frac{2}{3}x + 5$$



Desprender por la línea perforada

Hoja de referencia

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

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

Volumen	cilindro	$\text{V} = \pi r^2 h$

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

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

Desprender por la línea perforada

Desprender por la línea perforada

Desprender por la línea perforada

Desprender por la línea perforada

Desprender por la línea perforada

Papel cuadriculado de borrador — Esta hoja *no* será calificada.

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Miércoles, 26 de enero de 2011 — 1:15 a 4:15 p.m., solamente

HOJA DE RESPUESTAS

Estudiante ..... Sexo: ☐ Masculino ☐ Femenino Grado .....

Maestro ..... Escuela .....

Sus respuestas a la Parte I deberá escribirlas en esta hoja de respuestas.

Parte I

Conteste 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 deberá escribirlas en el folleto de examen.

La siguiente declaración debe ser firmada cuando usted haya finalizado 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 a las preguntas.

Firma

Desprender por la línea perforada

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

Scale Score
(from conversion chart)

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

Desprender por la línea perforada

Desprender por la línea perforada

INTEGRATED ALGEBRA SPANISH EDITION

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, January 26, 2011 — 1:15 to 4:15 p.m., only

SCORING KEY AND RATING GUIDE

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 Examinations in Mathematics.*

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 scale score by using the conversion chart that will be posted on the Department's web site http://www.p12.nysed.gov/osa/ on Wednesday, January 26, 2011. The student's scale score should be entered in the box provided on the student's detachable answer sheet. The scale 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) 1	(9) 1	(17) 3	(25) 4
(2) 4	(10) 2	(18) 1	(26) 1
(3) 3	(11) 4	(19) 2	(27) 1
(4) 3	(12) 1	(20) 2	(28) 2
(5) 4	(13) 3	(21) 3	(29) 3
(6) 1	(14) 4	(22) 2	(30) 1
(7) 2	(15) 2	(23) 2	
(8) 2	(16) 4	(24) 3	

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.p12.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 Examinations in Mathematics*, 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 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]** 5, and appropriate 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] 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.

(32) **[2]** $\frac{1375}{1600}$ or an equivalent answer, and appropriate 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 $\frac{225}{1600}$ (the complement of the correct answer) or an equivalent answer is found.

or

[1] Appropriate work is shown to find 1375, the area of the unshaded portion, but no further correct work is shown.

or

[1] $\frac{1375}{1600}$ or an equivalent answer, but no work is shown.

[0] The areas of the squares are calculated correctly, but no further correct 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.

(33) **[2]** 2.1, and appropriate 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, such as using an incorrect trigonometric function.

or

[1] Cos 65 = $\frac{x}{5}$ or an equivalent equation is written, but no further correct work is shown.

or

[1] 2.1, 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 three credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(34) **[3]** $y = \frac{3}{4}x + 10$, and appropriate work is shown.

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

[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] $y - 4 = \frac{3}{4}(x + 8)$ is written, but no further correct work is shown.

or

[1] $y = \frac{3}{4}x + 10$, 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]** The frequency table is completed correctly, and a correct frequency histogram is drawn with the axes labeled.

[2] The frequency table is completed correctly, but one graphing or labeling error is made in the frequency histogram.

or

[2] The frequency table is completed incorrectly, but an appropriate frequency histogram is drawn and labeled.

[1] The frequency table is completed correctly, but two or more graphing or labeling errors are made in the frequency histogram.

or

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

or

[1] The frequency table is completed incorrectly, and one graphing or labeling error is made in the 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.

(36) **[3]** 4 and –5, and appropriate algebraic work is shown.

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

or

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

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

or

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

or

[1] An incorrect quadratic equation of equal difficulty is solved appropriately.

or

[1] $x^2 + x - 20 = 0$ or an equivalent equation is written, but no further correct work is shown.

or

[1] 4 and –5, but a method other than algebraic is used.

or

[1] 4 and –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.

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]** 0.029, and appropriate work is shown.

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

or

[3] Appropriate work is shown to find $\frac{647.294 - 628.319}{647.294}$ or an equivalent expression, but no further correct work is shown.

or

[3] Appropriate work is shown, but the answer is given as a percent.

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

or

[2] Appropriate work is shown, but one conceptual error is made, such as dividing by 628.319.

or

[2] Appropriate work is shown to find both surface areas, but no further correct work is shown.

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

or

[1] Appropriate work is shown to find one surface area, but no further correct work is shown.

or

[1] 0.029, 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.

Because different models and brands of graphing calculators may yield slightly different results, an allowance is being provided for Question 38 only of the January 2011 Regents Examination in Integrated Algebra.

(38) **[4]** 24,435.19 or 24,435.20, and appropriate work is shown.

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

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

or

[2] Appropriate work is shown, but one conceptual error is made, such as using an exponential growth formula.

or

[2] $A = 30,000(1 - 0.05)^4$ or an equivalent equation is written, but no further correct work is shown.

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

or

[1] 24,435.19 or 24,435.20, 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.

(39) **[4]** Both inequalities are graphed and shaded correctly, and at least one is labeled, and the solution set is labeled *S*.

[3] Appropriate work is shown, but one graphing error is made, such as drawing a solid line for $y > -x + 2$ or shading incorrectly, but an appropriate solution set is labeled *S*.

or

[3] Both inequalities are graphed and shaded correctly, and the solution set is labeled *S*, but the graphs are not labeled or are labeled incorrectly.

or

[3] Both inequalities are graphed and shaded correctly, and at least one is labeled, but the solution set is not labeled or is labeled incorrectly.

[2] Appropriate work is shown, but two or more graphing errors are made, but an appropriate solution set is labeled *S*.

or

[2] Appropriate work is shown, but one conceptual error is made, such as graphing the lines $y = -x + 2$ and $y = \frac{2}{3}x + 5$, but at least one is labeled, and the point of intersection is labeled *S*.

or

[2] One of the inequalities is graphed, shaded, and labeled correctly, but no further correct work is shown.

[1] Appropriate work is shown, but one conceptual error and one graphing error are made, but an appropriate solution set is labeled *S*.

or

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

or

[1] A point in the solution set is identified and shown to be correct by checking in both inequalities, but no graphs are drawn.

[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 Core Curriculum

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

Regents Examination in Integrated Algebra

January 2011

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

The *Chart for Determining the Final Examination Score for the January 2011 Regents Examination in Integrated Algebra* will be posted on the Department's web site http://www.p12.nysed.gov/osa/ **on Wednesday, January 26, 2011. Conversion charts provided for previous administrations of the Integrated Algebra examination 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.forms2.nysed.gov/emsc/osa/exameval/reexameval.cfm.
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 State Education Department / The University of the State of New York

Regents Examination in Integrated Algebra – January 2011

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

Raw Score	Scale Score
87	100
86	98
85	97
84	96
83	95
82	94
81	93
80	92
79	91
78	90
77	89
76	89
75	88
74	88
73	87
72	87
71	86
70	86
69	86
68	85
67	84
66	84

Raw Score	Scale Score
65	84
64	83
63	83
62	83
61	82
60	82
59	82
58	81
57	81
56	81
55	80
54	80
53	80
52	79
51	79
50	79
49	78
48	78
47	77
46	77
45	76
44	76

Raw Score	Scale Score
43	75
42	75
41	74
40	74
39	73
38	72
37	72
36	71
35	70
34	69
33	68
32	67
31	66
30	65
29	64
28	63
27	62
26	61
25	60
24	58
23	57
22	55

Raw Score	Scale Score
21	54
20	52
19	51
18	49
17	47
16	45
15	43
14	41
13	39
12	37
11	35
10	32
9	30
8	27
7	24
6	21
5	18
4	15
3	12
2	8
1	4
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.