SPANISH EDITION
INTEGRATED ALGEBRA
THURSDAY, AUGUST 16, 2012
8:30 to 11:30 A.M., ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

ÁLGEBRA INTEGRADA

Jueves, 16 de agosto de 2012 — 8:30 a 11:30 a.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.

Se le ha proporcionado una hoja de respuestas separada para la Parte I. Siga las instrucciones del supervisor para completar la información del estudiante en 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 de este 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 al final de 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.

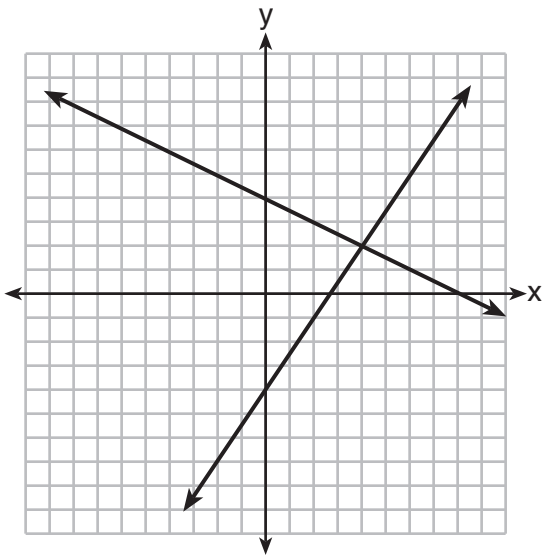
NO ABRA ESTE FOLLETO DE EXAMEN HASTA QUE SE LE INDIQUE.

Parte I

Responda las 30 preguntas de esta parte. Cada respuesta correcta recibirá 2 créditos. No se dará ningún crédito parcial. Escriba sus respuestas en la hoja de respuestas separada. [60]

Utilice este espacio para sus cálculos.

1 Se graficó un sistema de ecuaciones en el siguiente conjunto de ejes.



La solución de este sistema es

(1) (0,4)
(2) (2,4)
(3) (4,2)
(4) (8,0)

2 Un teléfono celular puede recibir 120 mensajes por minuto. A esta tasa, ¿cuántos mensajes podrá recibir el teléfono en 150 segundos?

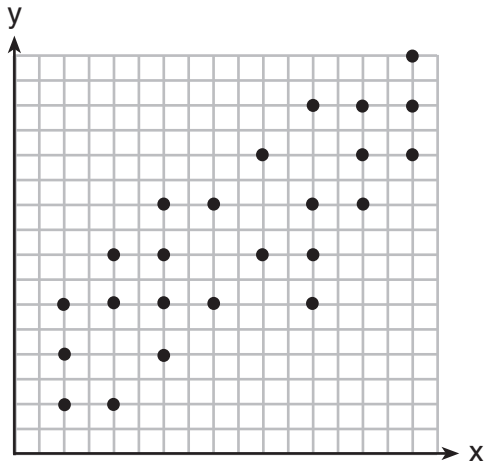
(1) 48
(2) 75
(3) 300
(4) 18,000

3 El valor de y en la ecuación $0.06y + 200 = 0.03y + 350$ es

(1) 500
(2) $1{,}666.\overline{6}$
(3) 5,000
(4) $18{,}333.\overline{3}$

Utilice este espacio para sus cálculos.

4 El siguiente diagrama de dispersión representa la relación entre x e y.



El tipo de relación es

(1) una correlación positiva
(2) una correlación negativa
(3) una correlación cero
(4) no se puede determinar

5 La suma de $3x^2 + 5x - 6$ y $-x^2 + 3x + 9$ es

(1) $2x^2 + 8x - 15$
(2) $2x^2 + 8x + 3$
(3) $2x^4 + 8x^2 + 3$
(4) $4x^2 + 2x - 15$

6 Por su trabajo de medio tiempo, Jason recibe \$155 por semana. Si ya ha ahorrado \$375, ¿cuál es el número de semanas mínimo que necesita trabajar para obtener el dinero suficiente para comprar una motocicleta todo terreno de \$900?

(1) 8
(2) 9
(3) 3
(4) 4

Utilice este espacio para sus cálculos.

7 La expresión $9a^2 - 64b^2$ es equivalente a

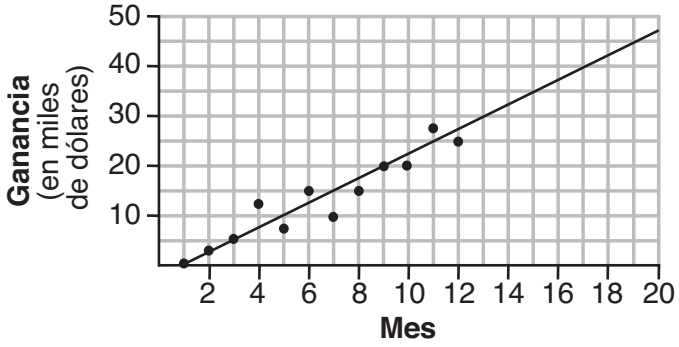
(1) $(9a - 8b)(a + 8b)$

(2) $(9a - 8b)(a - 8b)$

(3) $(3a - 8b)(3a + 8b)$

(4) $(3a - 8b)(3a - 8b)$

8 El siguiente diagrama de dispersión muestra las ganancias, por mes, para una nueva compañía durante el primer año de operación. Kate dibujó una línea de ajuste óptimo, como se muestra en el diagrama.



Usando esta línea, ¿cuál es la mejor estimación para las ganancias en el mes 18?

(1) \$35,000

(2) \$37,750

(3) \$42,500

(4) \$45,000

9 ¿Qué enunciado ilustra la propiedad de identidad aditiva?

(1) $6 + 0 = 6$

(2) $-6 + 6 = 0$

(3) $4(6 + 3) = 4(6) + 4(3)$

(4) $(4 + 6) + 3 = 4 + (6 + 3)$

Utilice este espacio para sus cálculos.

10 Peter caminó 8,900 pies desde su casa hasta la escuela.

1 milla = 5,280 pies

¿Qué distancia caminó, a la *décima más cercana de una milla*?

(1) 0.5
(2) 0.6
(3) 1.6
(4) 1.7

11 ¿Es la ecuación $A = 21000(1 - 0.12)^t$ un modelo de crecimiento exponencial o de decrecimiento exponencial y cuál es la tasa (porcentaje) de cambio por período de tiempo?

(1) crecimiento exponencial y 12%
(2) crecimiento exponencial y 88%
(3) decrecimiento exponencial y 12%
(4) decrecimiento exponencial y 88%

12 La longitud de un rectángulo es 15 y el ancho es w. El perímetro del rectángulo es, *como máximo,* 50. ¿Qué desigualdad puede usarse para encontrar el valor máximo posible del ancho?

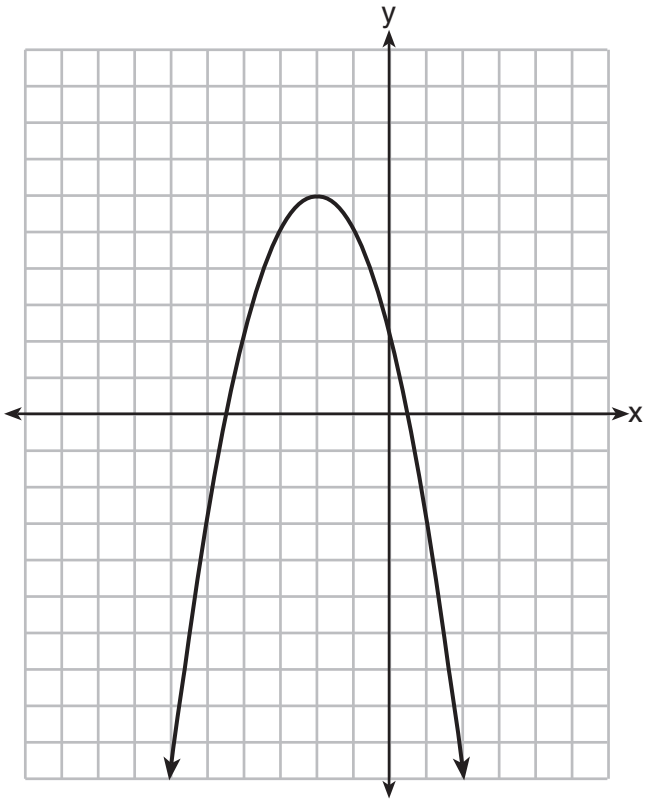
(1) $30 + 2w < 50$
(2) $30 + 2w \leq 50$
(3) $30 + 2w > 50$
(4) $30 + 2w \geq 50$

13 Craig ve un aviso de venta de un automóvil en un periódico. ¿Qué información *no* se puede clasificar como cuantitativa?

(1) el costo del automóvil
(2) el millaje del automóvil
(3) el modelo del automóvil
(4) el peso del automóvil

Utilice este espacio para sus cálculos.

14 ¿Cuáles son las coordenadas del vértice y la ecuación del eje de simetría de la parábola que se muestra en el siguiente gráfico?



(1) $(0,2)$ e $y = 2$

(2) $(0,2)$ y $x = 2$

(3) $(-2,6)$ e $y = -2$

(4) $(-2,6)$ y $x = -2$

15 Una traducción correcta de "seis menos que el doble del valor de x" es

(1) $2x < 6$

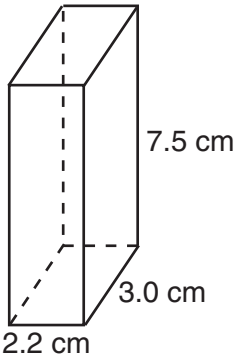
(2) $2x - 6$

(3) $6 < 2x$

(4) $6 - 2x$

Utilice este espacio para sus cálculos.

16 El siguiente prisma rectangular tiene una longitud de 3.0 cm, un ancho de 2.2 cm y una altura de 7.5 cm.



¿Cuál es el área de la superficie, expresada en centímetros cuadrados?

(1) 45.6
(2) 49.5
(3) 78.0
(4) 91.2

17 ¿Qué conjunto de coordenadas es una solución de la ecuación $2x - y = 11$?

(1) $(-6,-1)$
(2) $(-1,9)$
(3) $(0,11)$
(4) $(2,-7)$

18 El gráfico de una parábola está representado por la ecuación $y = ax^2$ donde a es un número entero positivo. Si a se multiplica por 2, la nueva parábola será

(1) más angosta y abierta hacia abajo
(2) más angosta y abierta hacia arriba
(3) más ancha y abierta hacia abajo
(4) más ancha y abierta hacia arriba

Utilice este espacio para sus cálculos.

19 ¿Qué ecuación representa una línea que tiene una pendiente de $\frac{3}{4}$ y pasa a través del punto (2,1)?

(1) $3y = 4x - 5$

(2) $3y = 4x + 2$

(3) $4y = 3x - 2$

(4) $4y = 3x + 5$

20 ¿Cuál es el valor de $\left|\frac{4(-6) + 18}{4!}\right|$?

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

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

(3) 12

(4) -12

21 Dado:

$A = \{1, 3, 5, 7, 9\}$

$B = \{2, 4, 6, 8, 10\}$

$C = \{2, 3, 5, 7\}$

$D = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

¿Qué enunciado es *falso*?

(1) $A \cup B \cup C = D$

(2) $A \cap B \cap C = \{\ \}$

(3) $A \cup C = \{1, 2, 3, 5, 7\}$

(4) $A \cap C = \{3, 5, 7\}$

22 ¿Qué expresión es equivalente a $\frac{2x^6 - 18x^4 + 2x^2}{2x^2}$?

(1) $x^3 - 9x^2$

(2) $x^4 - 9x^2$

(3) $x^3 - 9x^2 + 1$

(4) $x^4 - 9x^2 + 1$

Utilice este espacio para sus cálculos.

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

(1) positiva
(2) negativa
(3) cero
(4) indefinida

24 El volumen de una lata cilíndrica es de 32π pulgadas cúbicas. Si la altura de la lata es de 2 pulgadas, ¿cuál es el radio, expresado en pulgadas?

(1) 8
(2) 2
(3) 16
(4) 4

25 La expresión $\frac{14 + x}{x^2 - 4}$ es indefinida cuando x es

(1) -14, solamente
(2) 2, solamente
(3) -2 o 2
(4) -14, -2 o 2

26 ¿Cuál es la solución de $\frac{2}{x + 1} = \frac{x + 1}{2}$?

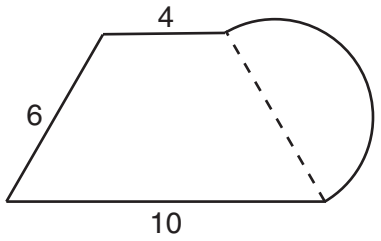
(1) -1 y -3
(2) -1 y 3
(3) 1 y -3
(4) 1 y 3

27 El puntaje total de un partido de fútbol americano fue de 72 puntos. El equipo ganador anotó 12 puntos más que el equipo perdedor. ¿Cuántos puntos anotó el equipo ganador?

(1) 30
(2) 42
(3) 54
(4) 60

Utilice este espacio para sus cálculos.

28 ¿Cuál es el perímetro de la siguiente figura, la cual se compone de un trapecio isósceles y un semicírculo?



(1) $20 + 3\pi$

(2) $20 + 6\pi$

(3) $26 + 3\pi$

(4) $26 + 6\pi$

29 La probabilidad de que mañana llueva es de $\frac{1}{2}$. La probabilidad de que nuestro equipo gane el partido de baloncesto de mañana es de $\frac{3}{5}$. ¿Qué expresión representa la probabilidad de que llueva y de que nuestro equipo *no* gane el partido?

(1) $\frac{1}{2} + \frac{3}{5}$

(2) $\frac{1}{2} + \frac{2}{5}$

(3) $\frac{1}{2} \times \frac{3}{5}$

(4) $\frac{1}{2} \times \frac{2}{5}$

30 La fórmula para el volumen de una pirámide es $V = \frac{1}{3}Bh$. ¿Qué es h expresado en términos de B y V?

(1) $h = \frac{1}{3}VB$

(2) $h = \frac{V}{3B}$

(3) $h = \frac{3V}{B}$

(4) $h = 3VB$

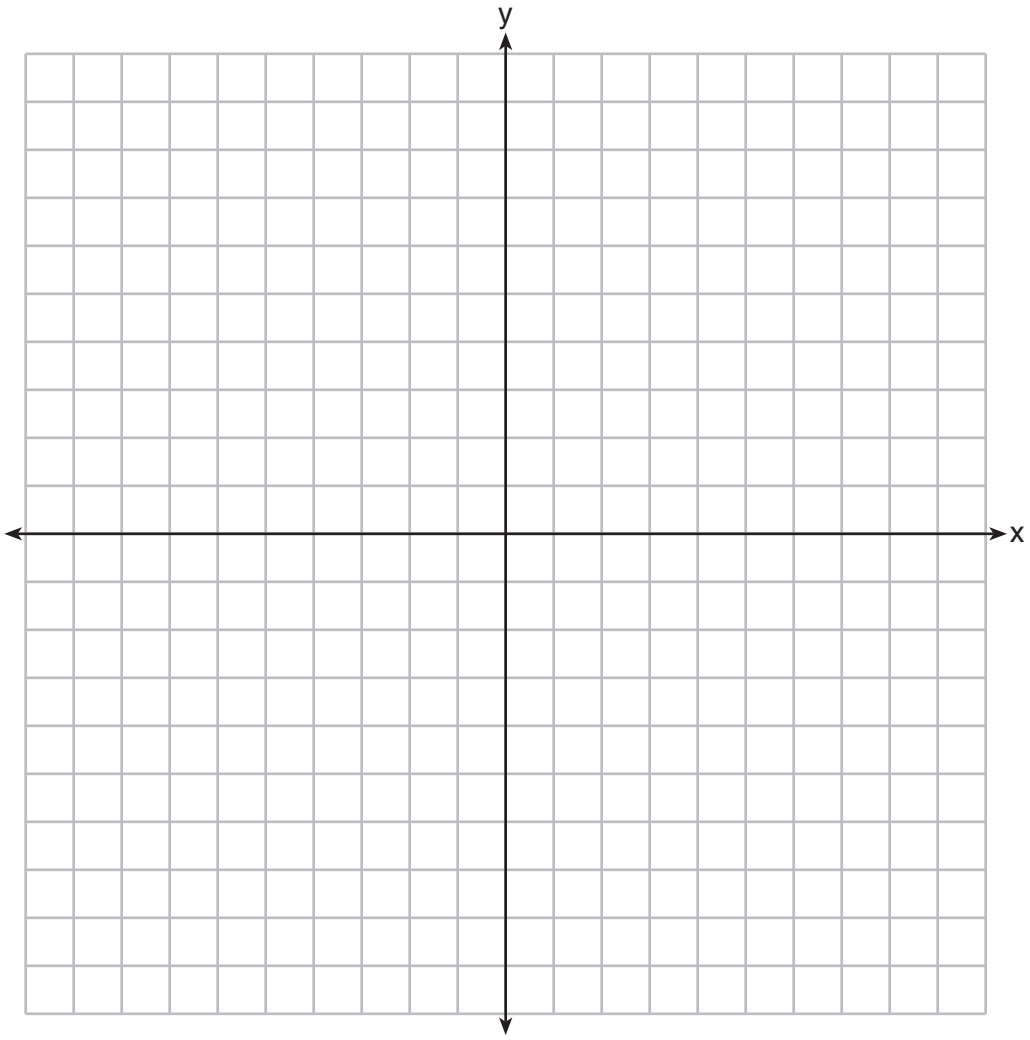
Parte II

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. Todas las respuestas deben escribirse con bolígrafo de tinta permanente, con excepción de los gráficos y los dibujos, que deben hacerse con lápiz grafito. [6]

31 Enuncie el valor de la expresión $\frac{(4.1 \times 10^2)(2.4 \times 10^3)}{(1.5 \times 10^7)}$ en notación científica.

32 Exprese el producto de $\frac{x + 2}{2}$ y $\frac{4x + 20}{x^2 + 6x + 8}$ en la forma más simple.

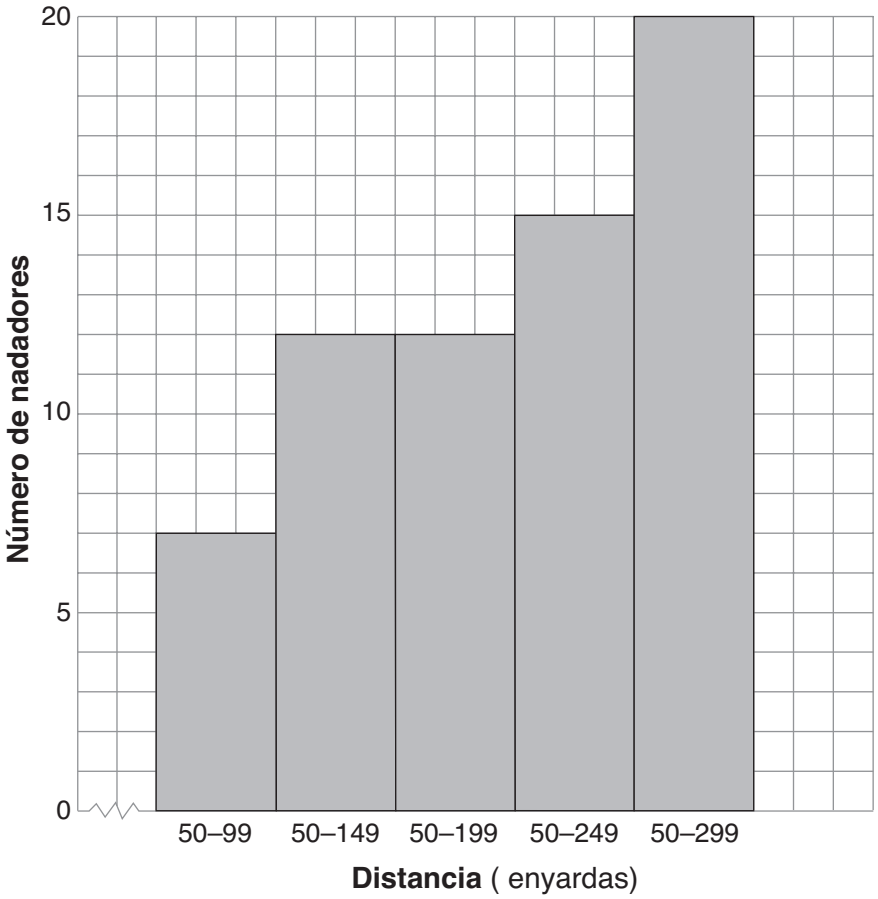
33 En el siguiente conjunto de ejes, grafique $y = 3^x$ sobre el intervalo $-1 \leq x \leq 2$.



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. Todas las respuestas deben escribirse con bolígrafo de tinta permanente, con excepción de los gráficos y los dibujos, que deben hacerse con lápiz grafito. [9]

34 El siguiente histograma de frecuencias acumulativas muestra las distancias que los nadadores completaron en una prueba de natación reciente.



Basándose en el histograma de frecuencias acumulativas, determine el número de nadadores que nadaron entre 200 y 249 yardas.

Determine el número de nadadores que nadaron entre 150 y 199 yardas.

Determine el número de nadadores que realizaron la prueba de natación.

35 Ashley tomó las medidas de un prisma rectangular, que fueron 6 cm por 10 cm por 1.5 cm. Las medidas reales son 5.9 cm por 10.3 cm por 1.7 cm. Determine el error relativo al calcular el volumen del prisma, a la *milésima más cercana*.

36 Resuelva algebraicamente el siguiente sistema de ecuaciones para *todos* los valores de x e y.

$$y = x^2 + 2x - 8$$
$$y = 2x + 1$$

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. Todas las respuestas deben escribirse con bolígrafo de tinta permanente, con excepción de los gráficos y los dibujos, que deben hacerse con lápiz grafito. [12]

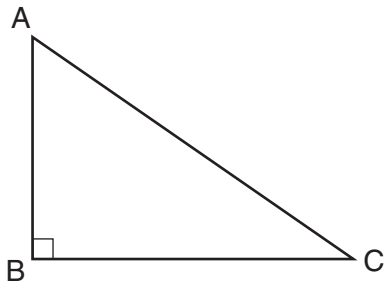
37 Una compañía organiza un concurso y otorga un primer, segundo y tercer premios. El primer premio es la opción de un automóvil o $15,000 en efectivo. El segundo premio es la opción de una motocicleta, un viaje a la ciudad de Nueva York o $2,000 en efectivo. El tercer premio es la opción de un televisor o $500 en efectivo.

Si cada premio tiene las mismas probabilidades de ser elegido, enumere el espacio muestral o dibuje un diagrama de árbol de *todos* los resultados posibles del primer, segundo y tercer premios.

Determine la cantidad de formas por las que *todos* los tres premios elegidos pueden ser en efectivo.

Determine la cantidad de formas por las que *ninguno* de los tres premios elegidos pueden ser en efectivo.

38 En el siguiente triángulo recto ABC, $AC = 29$ pulgadas, $AB = 17$ pulgadas, y $m\angle ABC = 90$. Encuentre el número de grados en la medida del ángulo BAC, al *grado más cercano*.

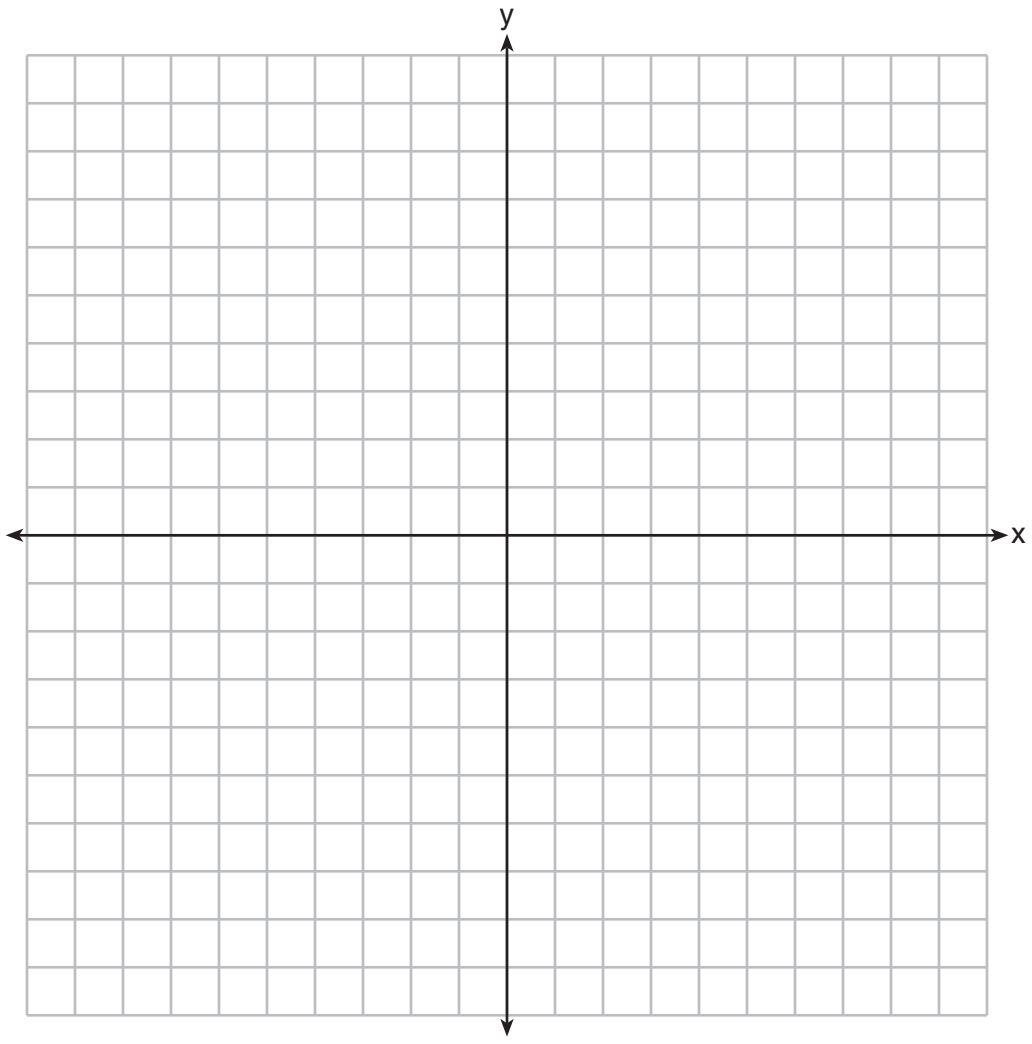


Encuentre la longitud de $\overline{BC}$ a la *pulgada más cercana*.

39 En el conjunto de ejes a continuación, grafique el siguiente sistema de desigualdades.

$$y + x \geq 3$$
$$5x - 2y > 10$$

Escriba las coordenadas de *un* punto que corresponda a $y + x \geq 3$, pero que *no* corresponda a $5x - 2y > 10$.



Desprender por la línea perforada

Desprender por la línea perforada

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

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Desprender por la línea perforada

Desprender por la línea perforada

Desprender por la línea perforada

Hoja de referencia

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

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

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

Thursday, August 16, 2012 — 8:30 to 11:30 a.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*.

Do *not* attempt to correct the student's work by making insertions or changes of any kind. In scoring the open-ended questions, use check marks to indicate student errors. If the student's responses for the multiple-choice questions are being hand scored prior to being scanned, the scorer must be careful not to make any stray marks on the answer sheet that might later interfere with the accuracy of the scanning.

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 open-ended questions on a student's paper. 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 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.

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.p12.nysed.gov/apda/ on Thursday, August 16, 2012. 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.

Part I

Allow a total of 60 credits, 2 credits for each of the following.

1 . . . . . 3	11 . . . . . 3	21 . . . . . 3 . . . . .
2 . . . . . 3	12 . . . . . 2	22 . . . . . 4 . . . . .
3 . . . . . 3	13 . . . . . 3	23 . . . . . 2 . . . . .
4 . . . . . 1	14 . . . . . 4	24 . . . . . 4 . . . . .
5 . . . . . 2	15 . . . . . 2	25 . . . . . 3 . . . . .
6 . . . . . 4	16 . . . . . 4	26 . . . . . 3 . . . . .
7 . . . . . 3	17 . . . . . 4	27 . . . . . 2 . . . . .
8 . . . . . 3	18 . . . . . 2	28 . . . . . 1 . . . . .
9 . . . . . 1	19 . . . . . 3	29 . . . . . 4 . . . . .
10 . . . . . 4	20 . . . . . 1	30 . . . . . 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 at: http://www.p12.nysed.gov/apda/ 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.

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

(31) **[2]** 6.56×10^{-2}.

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

or

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

[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]** $\frac{2(x+5)}{x+4}$ or $\frac{2x+10}{x+4}$, and appropriate work is shown.

[1] Appropriate work is shown, but one computational or factoring error is made, but an appropriate fraction is stated.

or

[1] Appropriate work is shown, but one conceptual error is made, but an appropriate fraction is stated.

or

[1] The expression is factored correctly, but no further correct work is shown.

or

[1] $\frac{2(x+5)}{x+4}$ or $\frac{2x+10}{x+4}$, 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]** A correct graph is drawn over the given interval.

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

or

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

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

(34) **[3]** All three answers (3, 0, and 20) are correct.

[2] Only two answers are correct.

[1] One conceptual error is made, such as interpreting the graph as a frequency histogram.

or

[1] Only one answer is correct.

[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]** 0.129, and appropriate work is shown.

[2] Appropriate work is shown to find $\frac{103.309 - 90}{103.309}$ or an equivalent expression, but no further correct work is shown.

or

[2] Appropriate work is shown, but one computational or rounding error is made, but an appropriate relative error is found.

[1] Appropriate work is shown, but two or more computational or rounding errors are made, but an appropriate relative error is found.

or

[1] Appropriate work is shown, but one conceptual error is made, such as dividing by 90.

or

[1] Appropriate work is shown to find 90 and 103.309, but no further correct work is shown.

or

[1] 0.129, 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) **[3]** $x = -3$, $y = -5$ and $x = 3$, $y = 7$ or $(-3,-5)$ and $(3,7)$, and appropriate algebraic work is shown.

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

or

[2] Appropriate work is shown, but only $(-3,-5)$ or $(3,7)$ is found.

or

[2] Appropriate work is shown to find $x = -3$ and $x = 3$, but no further correct work is shown.

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

or

[1] Appropriate work is shown, but one conceptual error is made, but appropriate solutions are found.

or

[1] $x = -3$, $y = -5$ and $x = 3$, $y = 7$ or $(-3,-5)$ and $(3,7)$, but a method other than algebraic is used.

or

[1] $x^2 - 9 = 0$ or $x^2 = 9$ is written, but no further correct work is shown.

or

[1] $x = -3$, $y = -5$ and $x = 3$, $y = 7$ or $(-3,-5)$ and $(3,7)$, 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 4 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(37) **[4]** A correct tree diagram or sample space is shown, and 1 and 2 are stated.

[3] Appropriate work is shown, but one computational error is made, but two appropriate numbers of outcomes are stated.

or

[3] A correct tree diagram or sample space is shown, but only 1 or 2 is stated.

or

[3] A correct tree diagram or sample space is shown, but the appropriate numbers of outcomes are stated as probabilities.

[2] Appropriate work is shown, but two or more computational errors are made, but two appropriate numbers of outcomes are stated.

or

[2] Appropriate work is shown, but one conceptual error is made, but two appropriate numbers of outcomes are stated.

or

[2] A correct tree diagram or sample space is shown, but no further correct work is shown.

or

[2] An incomplete tree diagram or sample space that shows an understanding of the problem is written, but two appropriate numbers of outcomes are stated.

[1] Appropriate work is shown, but one conceptual error and one computational error are made, but two appropriate numbers of outcomes are stated.

or

[1] An incorrect tree diagram or sample space that shows an understanding of the problem is written, but only one appropriate number of outcomes is stated.

or

[1] 1 and 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.

(38) **[4]** 54 and 23, and appropriate work is shown.

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

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

or

[2] Appropriate work is shown, but one conceptual error is made, but appropriate solutions are found.

or

[2] Appropriate work is shown to find 54 or 23, but no further correct work is shown.

or

[2] $\text{Cos}\, x = \frac{17}{\mathbf{29}}$ and $17^2 + BC^2 = 29^2$ are 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, but appropriate solutions are found.

or

[1] $\text{Cos}\, x = \frac{17}{\mathbf{29}}$ or $17^2 + BC^2 = 29^2$ is written, but no further correct work is shown.*

or

[1] 54 and 23, 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.

*Corrected – 8/17/12

(39) **[4]** Both inequalities are graphed and shaded correctly, and at least one is labeled, and the coordinates of a point that satisfies $y + x \geq 3$, but not $5x - 2y > 10$ are stated.

[3] Appropriate work is shown, but one graphing error is made, such as drawing a solid line for $5x - 2y > 10$ or shading incorrectly, but appropriate coordinates are stated.

or

[3] Both inequalities are graphed and shaded correctly, but neither graph is labeled, but appropriate coordinates are stated.

or

[3] Both inequalities are graphed and shaded correctly, and at least one is labeled, but coordinates of a point are not stated or are stated incorrectly.

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

or

[2] Both inequalities are graphed and shaded correctly, but neither is labeled, and the coordinates of a point are not stated or are stated incorrectly.

or

[2] Appropriate work is shown, but one conceptual error is made, such as graphing the lines $y + x = 3$ and $5x - 2y = 10$ and stating the coordinates of a point on $y + x = 3$ but not on $5x - 2y = 10$.

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 two or more graphing or labeling errors are made and appropriate coordinates are not stated, or are stated incorrectly.

or

[1] Appropriate work is shown, but one conceptual error and one graphing or labeling error are made, but appropriate coordinates are stated.

or

[1] Only the lines $y + x = 3$ and $5x - 2y = 10$ are graphed, and at least one is labeled.

or

[1] A point that satisfies $y + x \geq 3$, but not $5x - 2y > 10$ 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	9, 20, 31
Algebra	3, 5, 6, 7, 11, 12, 15, 17, 19, 21, 22, 23, 25, 26, 27, 30, 32, 36, 38
Geometry	1, 14, 16, 18, 24, 28, 33, 39
Measurement	2, 10, 35
Statistics and Probability	4, 8, 13, 29, 34, 37

Regents Examination in Integrated Algebra

August 2012

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

The *Chart for Determining the Final Examination Score for the August 2012 Regents Examination in Integrated Algebra* will be posted on the Department's web site at: http://www.p12.nysed.gov/apda/ on Thursday, August 16, 2012. Conversion charts provided for previous administrations of the Regents Examination in Integrated Algebra 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.

Regents Examination in Integrated Algebra – August 2012

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

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 Integrated Algebra.