SPANISH EDITION
INTEGRATED ALGEBRA
TUESDAY, JANUARY 24, 2012
9:15 A.M. to 12:15 P.M., ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

ÁLGEBRA INTEGRADA

Martes, 24 de enero de 2012 — 9:15 a.m. a 12:15 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.

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. 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 ¿Qué expresión es equivalente a $64 - x^2$?

(1) $(8 - x)(8 - x)$

(2) $(8 - x)(8 + x)$

(3) $(x - 8)(x - 8)$

(4) $(x - 8)(x + 8)$

2 El Sr. Smith invirtió \$2,500 en una cuenta de ahorros que gana el 3% de interés compuesto anualmente. El Sr. Smith no realizó depósitos ni retiros adicionales. ¿Qué expresión se puede usar para determinar la cantidad de dinero en dólares que habrá en la cuenta después de 4 años?

(1) $2500(1 + 0.03)^4$

(2) $2500(1 + 0.3)^4$

(3) $2500(1 + 0.04)^3$

(4) $2500(1 + 0.4)^3$

3 ¿Cómo se expresa $2\sqrt{45}$ en la forma radical más simple?

(1) $3\sqrt{5}$

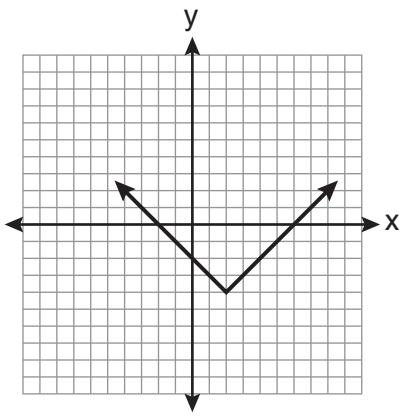
(2) $5\sqrt{5}$

(3) $6\sqrt{5}$

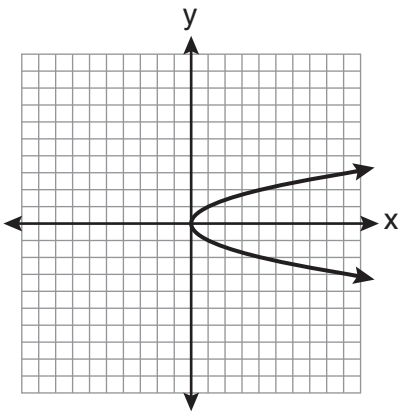
(4) $18\sqrt{5}$

Utilice este espacio para sus cálculos.

4 ¿Qué gráfico *no* representa una función?



(1)



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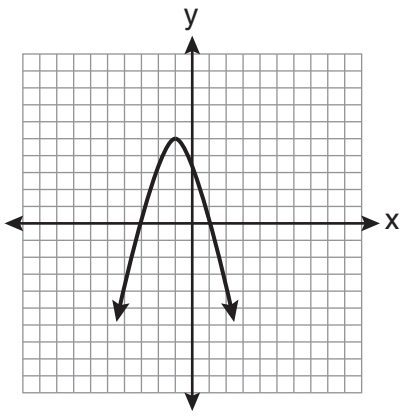

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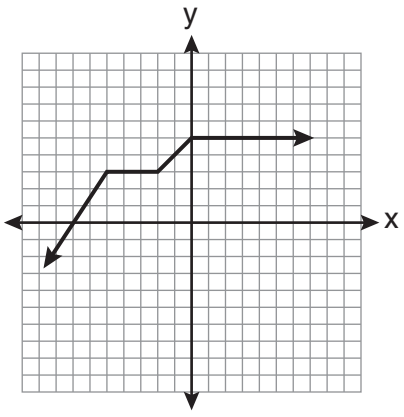


(4)

5 Timmy compró una patineta y dos cascos por un total de d dólares. Si cada casco tiene un valor de h dólares, el valor de la patineta podría representarse como

(1) $2dh$

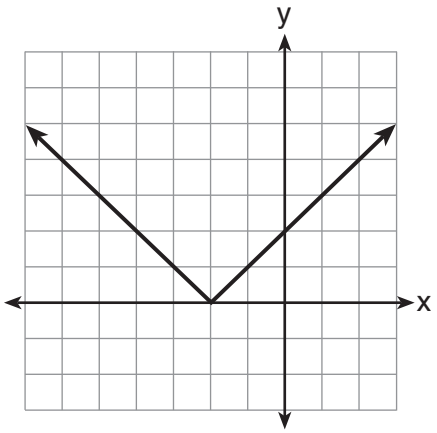
(2) $\frac{dh}{2}$

(3) $d - 2h$

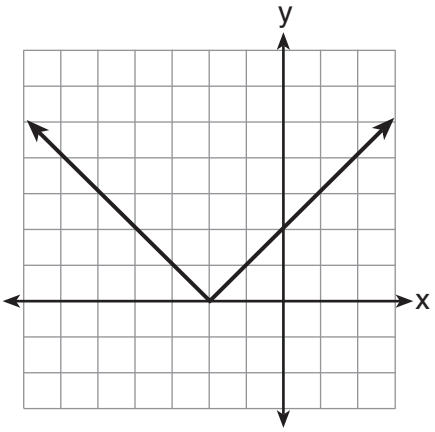
(4) $d - \frac{h}{2}$

Utilice este espacio para sus cálculos.

6 A continuación se muestra el gráfico de $y = |x + 2|$.



¿Qué gráfico representa $y = -|x + 2|$?



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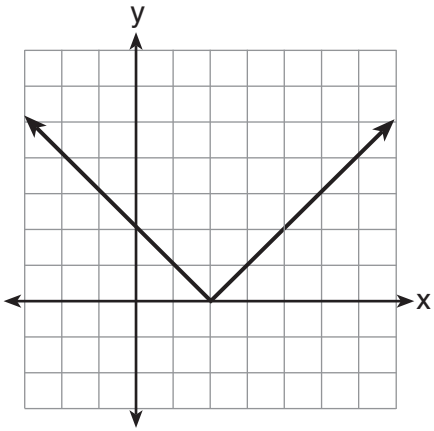

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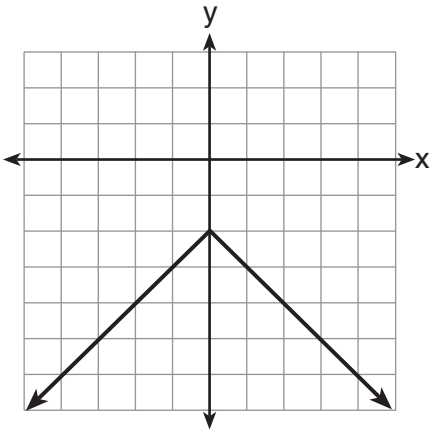

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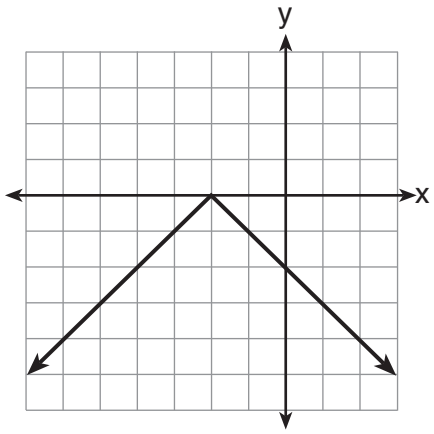
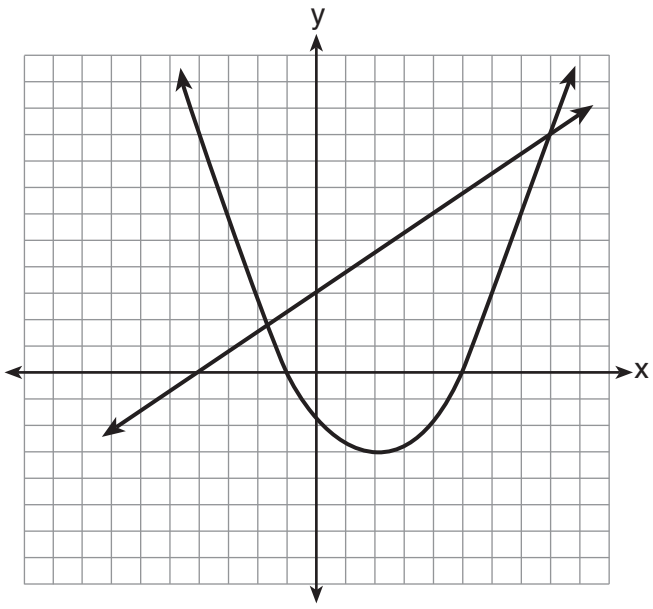


(4)

Utilice este espacio para sus cálculos.

7 Se graficaron dos ecuaciones en el conjunto de ejes que se muestra a continuación.



¿Cuál punto es una solución para el sistema de ecuaciones que se muestra en el gráfico?

(1) (8,9)
(2) (5,0)
(3) (0,3)
(4) (2,−3)

8 Byron es 3 años mayor que Doug. El producto de sus edades es 40. ¿Qué edad tiene Doug?

(1) 10
(2) 8
(3) 5
(4) 4

Utilice este espacio para sus cálculos.

9 Las dimensiones reales de un rectángulo son 2.6 cm por 6.9 cm. Andy mide los lados y obtiene 2.5 cm por 6.8 cm. Al calcular el área, ¿cuál es el error relativo a la *milésima más cercana*?

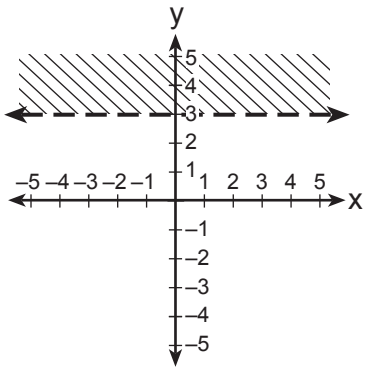
(1) 0.055

(2) 0.052

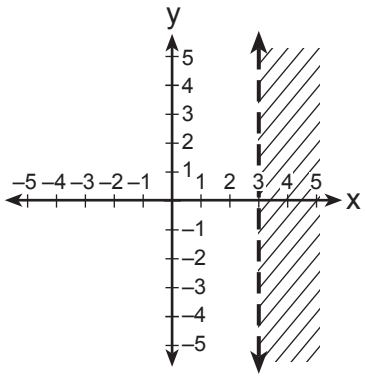
(3) 0.022

(4) 0.021

10 ¿Qué gráfico representa la desigualdad $y > 3$?



(1)



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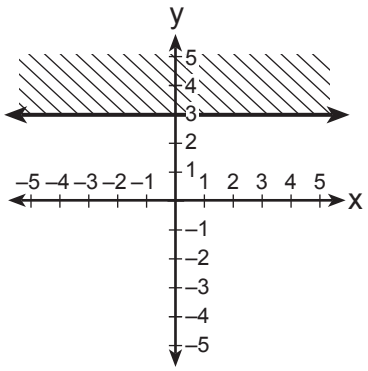

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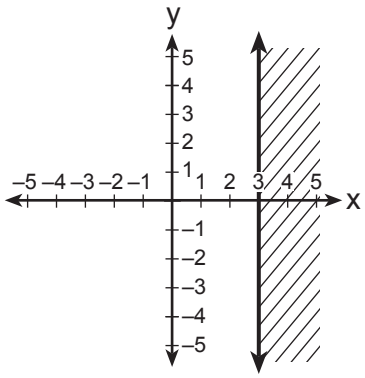


(4)

Utilice este espacio para sus cálculos.

11 ¿Qué conjunto de datos se puede clasificar como cuantitativo?

(1) los nombres de los estudiantes en un club de ajedrez

(2) las edades de los estudiantes en una clase sobre el gobierno

(3) los colores del cabello de los estudiantes en un club de debate

(4) los deportes favoritos de los estudiantes en una clase de gimnasia

12 Se arrojan al aire tres monedas. ¿Cuál es la probabilidad de que dos caigan como cara y una como cruz?

(1) $\frac{1}{8}$

(2) $\frac{3}{8}$

(3) $\frac{3}{6}$

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

13 ¿Cuál es la suma de $-3x^2 - 7x + 9$ y $-5x^2 + 6x - 4$?

(1) $-8x^2 - x + 5$

(2) $-8x^4 - x + 5$

(3) $-8x^2 - 13x + 13$

(4) $-8x^4 - 13x^2 + 13$

14 ¿Para qué valores de x la fracción $\frac{x^2 + x - 6}{x^2 + 5x - 6}$ es indefinida?

(1) 1 y -6

(2) 2 y -3

(3) 3 y -2

(4) 6 y -1

Utilice este espacio para sus cálculos.

15 ¿Cuál es la pendiente de la línea que pasa a través de los puntos $(2,-3)$ y $(5,1)$?

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

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

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

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

16 La expresión $\frac{(4x^3)^2}{2x}$ es equivalente a

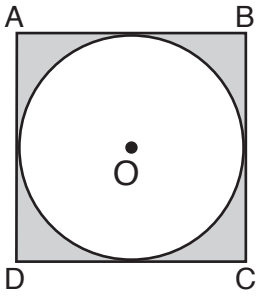
(1) $4x^4$

(2) $4x^5$

(3) $8x^4$

(4) $8x^5$

17 En el diagrama a continuación, el círculo O está inscrito en el cuadrado $ABCD$. El área del cuadrado es 36.



¿Cuál es el área del círculo?

(1) 9π

(2) 6π

(3) 3π

(4) 36π

18 ¿Qué punto aparece en el gráfico representado por la ecuación $3y + 2x = 8$?

(1) $(-2,7)$

(2) $(0,4)$

(3) $(2,4)$

(4) $(7,-2)$

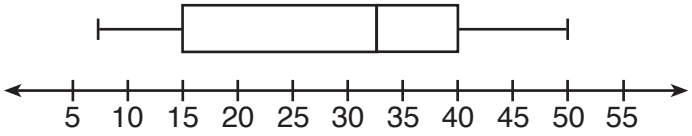
Utilice este espacio para sus cálculos.

19 La ecuación del eje de simetría del gráfico de $y = 2x^2 - 3x + 7$ es

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

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

20 El diagrama de caja y bigotes que se muestra a continuación representa las edades de 12 personas.

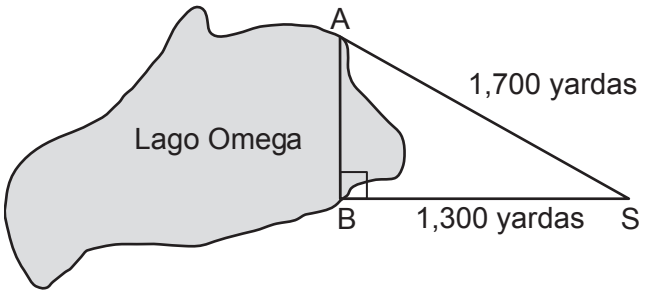


¿Qué porcentaje de estas personas tiene 15 años o más?

(1) 25 (3) 75

(2) 35 (4) 85

21 El campamento *A* y el campamento *B* están ubicados directamente opuestos uno al otro en las costas del lago Omega, como se muestra en el diagrama a continuación. Los dos campamentos forman un triángulo rectángulo en conjunto con la posición de Sam, *S*. La distancia desde el campamento *B* a la posición de Sam es de 1,300 yardas y el campamento *A* se encuentra a una distancia de 1,700 yardas desde su posición.



¿Cuál es la distancia desde el campamento *A* hasta el campamento *B*, a la *yarda más cercana*?

(1) 1,095 (3) 2,140

(2) 1,096 (4) 2,141

Utilice este espacio para sus cálculos.

22 ¿Qué notación de construcción de conjuntos representa $\{-2, -1, 0, 1, 2, 3\}$?

(1) $\{x|-3 \leq x \leq 3$, donde x es un entero$\}$

(2) $\{x|-3 < x \leq 4$, donde x es un entero$\}$

(3) $\{x|-2 < x < 3$, donde x es un entero$\}$

(4) $\{x|-2 \leq x < 4$, donde x es un entero$\}$

23 Las raíces de la ecuación $3x^2 - 27x = 0$ son

(1) 0 y 9

(2) 0 y -9

(3) 0 y 3

(4) 0 y -3

24 ¿Qué ecuación es un ejemplo del uso de la propiedad asociativa de la suma?

(1) $x + 7 = 7 + x$

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

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

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

25 Dado:

$A = \{2, 4, 5, 7, 8\}$

$B = \{3, 5, 8, 9\}$

¿Qué es $A \cup B$?

(1) $\{5\}$

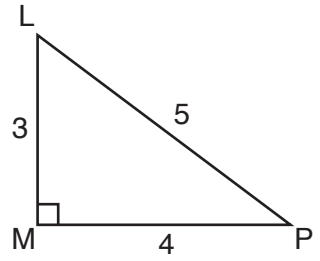
(2) $\{5, 8\}$

(3) $\{2, 3, 4, 7, 9\}$

(4) $\{2, 3, 4, 5, 7, 8, 9\}$

Utilice este espacio para sus cálculos.

26 El siguiente diagrama muestra el triángulo rectángulo *LMP*.



¿Qué razón representa la tangente de $\angle PLM$?

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

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

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

(4) $\frac{5}{4}$

27 El Sr. Stanton les pidió a sus estudiantes escribir una expresión algebraica en una hoja de papel. Escogió a cuatro estudiantes para que escribieran sus expresiones en la pizarra.

Robert escribió: $4(2x + 5) \geq 17$

Meredith escribió: $3y - 7 + 11z$

Steven escribió: $9w + 2 = 20$

Cynthia escribió: $8 + 10 - 4 = 14$

¿Cuál estudiante escribió una expresión algebraica?

(1) Robert

(2) Meredith

(3) Steven

(4) Cynthia

28 Si $s = \frac{2x + t}{r}$, entonces x equivale a

(1) $\frac{rs - t}{2}$

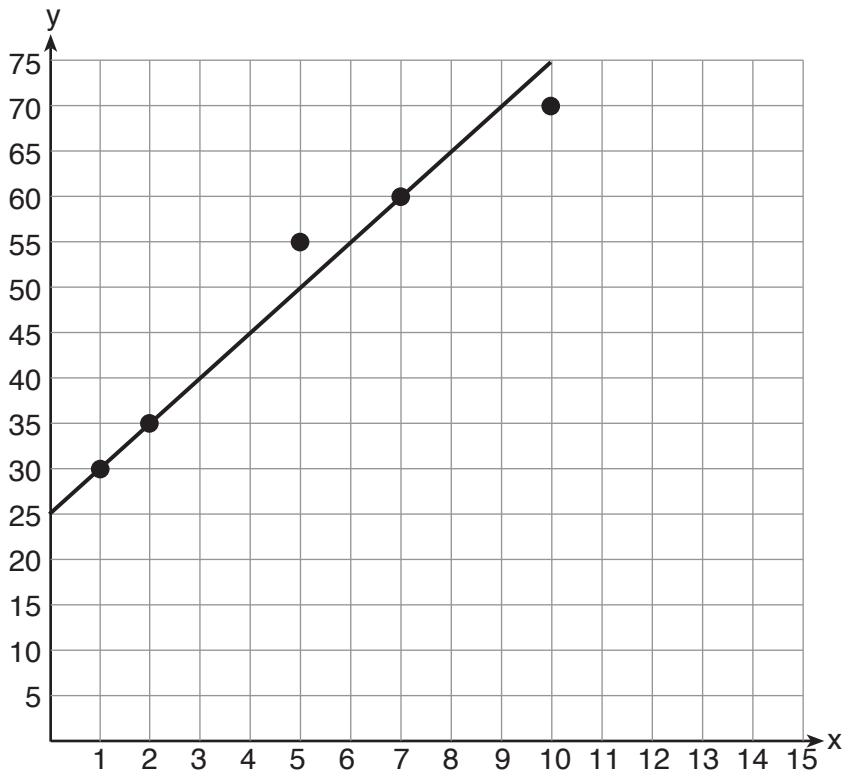
(2) $\frac{rs + 1}{2}$

(3) $2rs - t$

(4) $rs - 2t$

Utilice este espacio para sus cálculos.

29 Se construyó un diagrama de dispersión en el gráfico a continuación y se dibujó una línea de ajuste óptimo.



¿Cuál es la ecuación de esta línea de ajuste óptimo?

(1) $y = x + 5$

(2) $y = x + 25$

(3) $y = 5x + 5$

(4) $y = 5x + 25$

30 ¿Cuál es la suma de $\frac{2y}{y+5}$ y $\frac{10}{y+5}$ expresada en la forma más simple?

(1) 1

(2) 2

(3) $\frac{12y}{y+5}$

(4) $\frac{2y+10}{y+5}$

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 El largo y el ancho de la base de un prisma rectangular son 5.5 cm y 3 cm. La altura del prisma es de 6.75 cm. Encuentre el valor *exacto* del área de la superficie del prisma, expresada en centímetros cuadrados.

32 Casey compró un paquete de semillas surtidas de flores y las plantó en su jardín. Cuando florecieron las primeras 25 flores, 11 eran blancas, 5 eran rojas, 3 eran azules y el resto de color amarillo. Encuentre la probabilidad empírica de que una flor que florezca sea de color amarillo.

33 Exprese en la forma más simple: $\frac{x^2 - 1}{x^2 + 3x + 2}$

Parte III

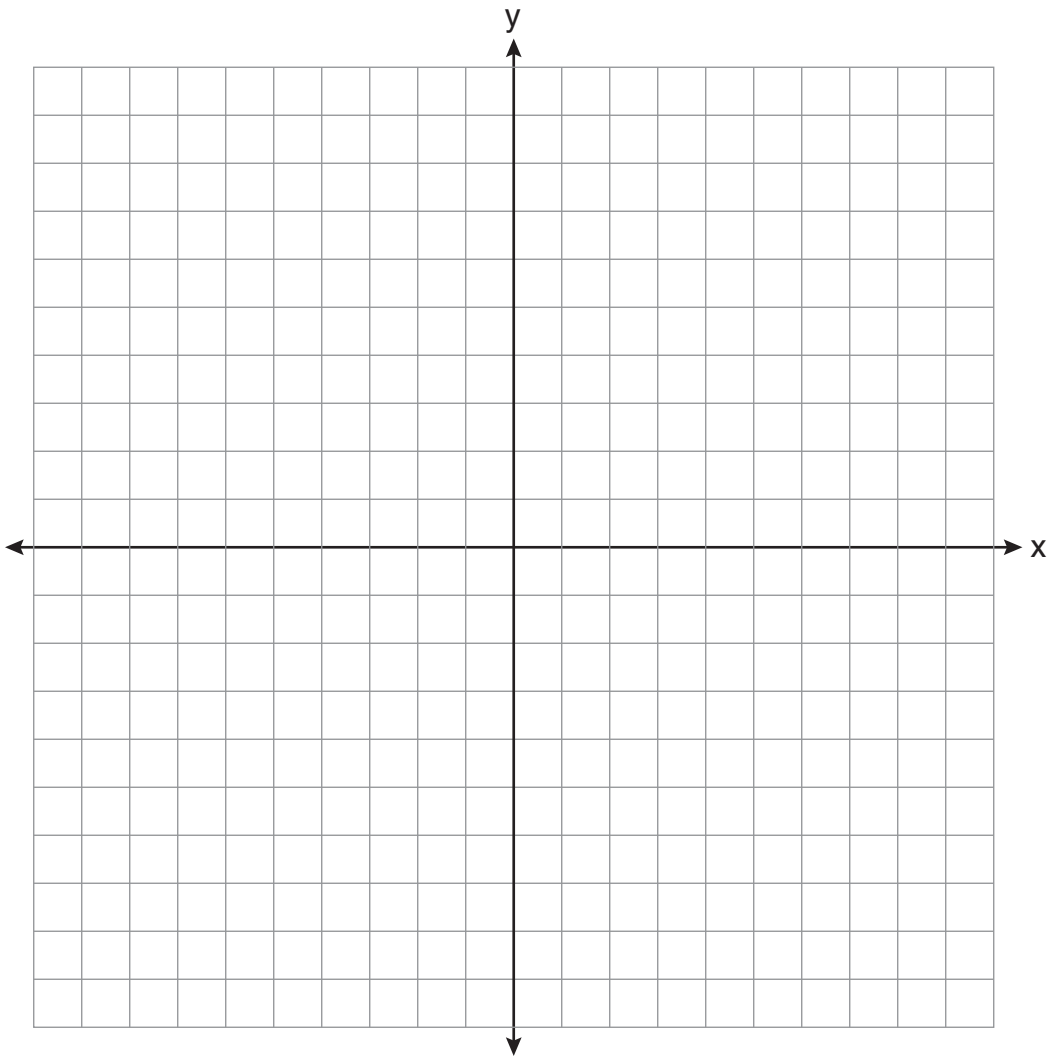
Responda las 3 preguntas de esta parte. Cada respuesta correcta recibirá 3 créditos. Indique claramente los pasos necesarios, incluyendo apropiadamente las sustituciones de fórmulas, diagramas, gráficos, tablas, etc. Para todas las preguntas en esta parte, una respuesta numérica correcta sin demostrar 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 Resuelva algebraicamente el valor de x: $2(x - 4) \geq \frac{1}{2}(5 - 3x)$

35 En el conjunto de ejes que se muestra a continuación, resuelva gráficamente el siguiente sistema de ecuaciones. Indique las coordenadas de la solución.

$$y = 4x - 1$$

$$2x + y = 5$$



36 Una tortuga y un conejo harán una carrera para saber cuál llegará primero a la meta que se encuentra a una distancia de 100 pies. La tortuga se desplaza a una velocidad constante de 20 pies por minuto durante toda la distancia de 100 pies. El conejo se desplaza a una velocidad constante de 40 pies por minuto durante los primeros 50 pies, se detiene durante 3 minutos y después continúa a una velocidad constante de 40 pies por minuto durante los últimos 50 pies.

Determine cuál animal ganó la carrera y por cuánto tiempo.

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 La suma de tres números enteros impares consecutivos es 18 menos que cinco veces el número del medio. Encuentre los tres números enteros. [Solamente una solución algebraica puede recibir crédito completo].

38 Un sándwich está compuesto por un tipo de pan, un tipo de carne y un tipo de queso. Las opciones posibles se muestran a continuación.

Pan: blanco, centeno

Carne: jamón, pavo, res

Queso: americano, suizo

Dibuje un diagrama de árbol o haga una lista de un espacio de muestra de todas las posibilidades de sándwiches diferentes compuestos por un tipo de pan, un tipo de carne y un tipo de queso.

Determine la cantidad de sándwiches que *no* incluirán pavo.

Determine la cantidad de sándwiches que incluirán pan de centeno y queso suizo.

39 Shana desea comprar una bicicleta nueva que tiene un precio de venta al público de $259.99. Ella sabe que estará en rebaja la semana próxima con un descuento del 30% sobre el precio de venta al público. Si la tasa del impuesto es del 7%, encuentre el monto total, al *centavo más cercano,* que Shana ahorrará si espera hasta la semana próxima.

Desprender por la línea perforada

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

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Desprender por la línea perforada

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Hoja de referencia

Razones trigonométricas		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

INTEGRATED ALGEBRA SPANISH EDITION

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Tuesday, January 24, 2012 — 9:15 a.m. to 12:15 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*.

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 Tuesday, January 24, 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. Allow credit if the student has written the correct answer instead of the numeral 1, 2, 3, or 4.

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

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]** 147.75, 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.

or

[1] 147.75, 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]** $\frac{6}{25}$, 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, such as finding 6, the number of yellow flowers.

or

[1] $\frac{6}{25}$, 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.

(33) **[2]** $\frac{x-1}{x+2}$, and appropriate work is shown.

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

or

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

or

[1] Either the numerator or the denominator is factored correctly, but no further correct work is shown.

or

[1] $\frac{x-1}{x+2}$, 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 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]** $x \geq 3$ or an equivalent answer, 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] $x \geq 3$ or an equivalent answer, 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]** Correct graphs are drawn, and at least one is labeled, and (1,3) or $x = 1$, $y = 3$ is stated.

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

or

[2] Correct graphs are drawn, and at least one is labeled, but the solution is not stated or is stated incorrectly.

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

or

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

or

[1] (1,3) or $x = 1$, $y = 3$, but a method other than graphic is used.

or

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

or

[1] (1,3) or $x = 1$, $y = 3$, but no work is shown.

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

(36) **[3]** Turtle and 0.5 or an equivalent answer with appropriate units, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made, but an appropriate determination and time are found.

or

[2] Appropriate work is shown to find 5, the correct time of the turtle, and 5.5, the correct time of the rabbit, and the turtle is stated as the winner, but the time difference is not found or is found incorrectly.

[1] Appropriate work is shown, but two or more computational errors are made, but an appropriate determination and time are found.

or

[1] Appropriate work is shown, but one conceptual error is made, but an appropriate determination and time are found.

or

[1] Appropriate work is shown to find the correct times of both the turtle and the rabbit, but no further correct work is shown.

[0] Turtle, 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.

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]** 7, 9, and 11, and appropriate algebraic work is shown.

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

or

[3] Appropriate work is shown to find one correct value, but no further correct work is shown.

[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, such as finding three consecutive integers.

or

[2] 7, 9, and 11, but a method other than algebraic is used.

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

or

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

or

[1] 7, 9, and 11, but no work is shown.

[0] 7 or 9 or 11, 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.

(38) **[4]** A correct tree diagram or sample space is shown, and 8 and 3 are stated.

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

or

[3] A correct tree diagram or sample space is shown, but only 8 or 3 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.

or

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

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 appropriate numbers of sandwiches are stated.

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

or

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

or

[1] 8 and 3, but no work is shown.

[0] 8 or 3, 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.

(39) **[4]** 83.46, 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 194.73, the sale price including tax, and 278.19, the retail price including tax, but the difference is not found or is found incorrectly.

[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.

or

[2] Appropriate work is shown to find 194.73, the sale price including tax, 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 278.19, the retail price including tax, but no further correct work is shown.

or

[1] Appropriate work is shown to find 181.99, the sale price not including tax, but no further correct work is shown.

or

[1] 83.46, 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.

Map to Core Curriculum

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

Regents Examination in Integrated Algebra
January 2012
Chart for Converting Total Test Raw Scores to Final Examination Scores (Scale Scores)

The *Chart for Determining the Final Examination Score for the January 2012 Regents Examination in Integrated Algebra* will be posted on the Department's web site at: http://www.p12.nysed.gov/apda/ on Tuesday, January 24, 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 – January 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	83	43	74	21	55
86	99	64	83	42	74	20	53
85	97	63	83	41	73	19	52
84	96	62	82	40	72	18	50
83	95	61	82	39	72	17	49
82	94	60	82	38	71	16	47
81	93	59	81	37	70	15	45
80	92	58	81	36	70	14	43
79	91	57	81	35	69	13	41
78	91	56	80	34	68	12	39
77	90	55	80	33	67	11	37
76	89	54	79	32	66	10	35
75	88	53	79	31	65	9	32
74	88	52	79	30	64	8	30
73	87	51	78	29	64	7	27
72	87	50	78	28	63	6	24
71	86	49	77	27	62	5	21
70	86	48	77	26	61	4	17
69	86	47	76	25	59	3	13
68	85	46	76	24	58	2	9
67	84	45	75	23	57	1	5
66	84	44	75	22	56	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.