SPANISH EDITION
INTEGRATED ALGEBRA
THURSDAY, JUNE 16, 2011
1:15 to 4:15 P.M., ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

ÁLGEBRA INTEGRADA

Jueves, 16 de junio 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.

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 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 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 La expresión $x^2 - 36y^2$ es equivalente a

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

2 Cada uno de los catetos de un triángulo rectángulo isósceles mide 10 pulgadas. ¿Cuál es la longitud de la hipotenusa de este triángulo, a la *décima de una pulgada más cercana*?

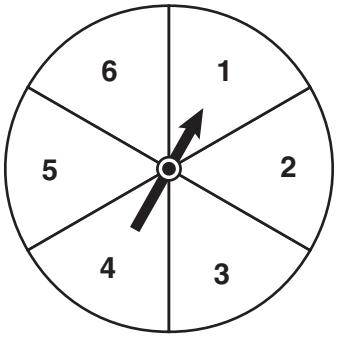
(1) 6.3
(2) 7.1
(3) 14.1
(4) 17.1

3 La expresión $\frac{12w^9y^3}{-3w^3y^3}$ es equivalente a

(1) $-4w^6$
(2) $-4w^3y$
(3) $9w^6$
(4) $9w^3y$

Utilice este espacio para sus cálculos.

4 La ruleta que se muestra en el siguiente diagrama está dividida en seis sectores iguales.



¿Qué resultado es el *menos* probable que ocurra si se gira una sola vez?

(1) un número impar
(2) un número primo
(3) un cuadrado perfecto
(4) un número divisible por 2

5 ¿Cuáles son los factores de la expresión $x^2 + x - 20$?

(1) $(x + 5)$ y $(x + 4)$
(2) $(x + 5)$ y $(x - 4)$
(3) $(x - 5)$ y $(x + 4)$
(4) $(x - 5)$ y $(x - 4)$

6 ¿Cómo se expresa $3\sqrt{250}$ en la forma radical más simple?

(1) $5\sqrt{10}$
(2) $8\sqrt{10}$
(3) $15\sqrt{10}$
(4) $75\sqrt{10}$

Utilice este espacio para sus cálculos.

7 Se está realizando una encuesta para determinar cuál es el candidato de la junta directiva escolar que mejor serviría a la comunidad de Yonkers. ¿Qué grupo, al ser encuestado al azar, produciría probablemente los resultados más parciales (más sesgada)?

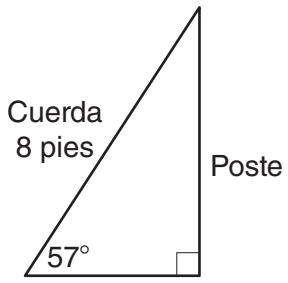
(1) 15 empleados del distrito escolar de Yonkers

(2) 25 personas que pasan en automóvil por la escuela secundaria Yonkers

(3) 75 personas que ingresan en una tienda de comestibles de Yonkers

(4) 100 personas que visitan el centro comercial de Yonkers

8 Se ata una cuerda de 8 pies desde la punta de un poste hasta una estaca en el piso, como se muestra en el siguiente diagrama.



Si la cuerda forma un ángulo de 57° con respecto al piso, ¿cuál es la altura del poste, a la *décima de un pie más cercana*?

(1) 4.4

(2) 6.7

(3) 9.5

(4) 12.3

9 ¿De cuántas maneras diferentes se pueden acomodar cinco libros en un estante?

(1) 5

(2) 15

(3) 25

(4) 120

Utilice este espacio para sus cálculos.

10 ¿Cuál es la pendiente de la línea que pasa a través de los puntos (–2,4) y (3,6)?

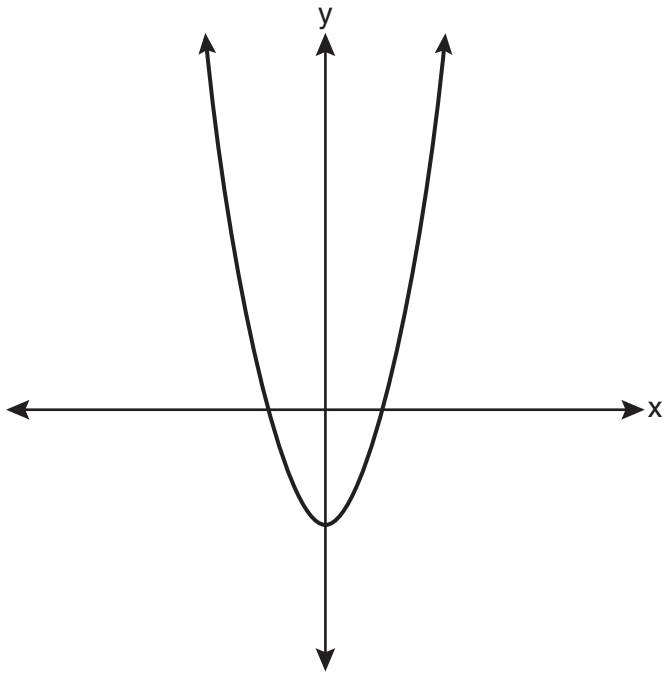
(1) $-\frac{5}{2}$

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

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

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

11 ¿Qué tipo de función está representada en el gráfico que se muestra a continuación?



(1) de valor absoluto

(2) exponencial

(3) lineal

(4) cuadrática

12 ¿Qué ecuación representa una línea paralela al eje y?

(1) $y = x$

(2) $y = 3$

(3) $x = -y$

(4) $x = -4$

Utilice este espacio para sus cálculos.

13 Melissa graficó la ecuación $y = x^2$ y Dave graficó la ecuación $y = -3x^2$ en la misma gráfica de coordenadas. ¿Cuál es la relación entre los gráficos que trazaron Melissa y Dave?

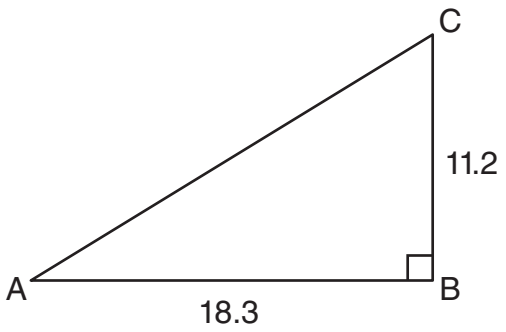
(1) El gráfico de Dave es más ancho y se abre en dirección opuesta en relación con el gráfico de Melissa.

(2) El gráfico de Dave es más angosto y se abre en dirección opuesta en relación con el gráfico de Melissa.

(3) El gráfico de Dave es más ancho y está ubicado tres unidades más abajo en relación con el gráfico de Melissa.

(4) El gráfico de Dave es más angosto y está ubicado tres unidades a la izquierda en relación con el gráfico de Melissa.

14 En el triángulo rectángulo ABC que se muestra a continuación, $AB = 18.3$ y $BC = 11.2$.



¿Cuál es la medida del $\angle A$, a la *décima de un grado más cercana*?

(1) 31.5

(2) 37.7

(3) 52.3

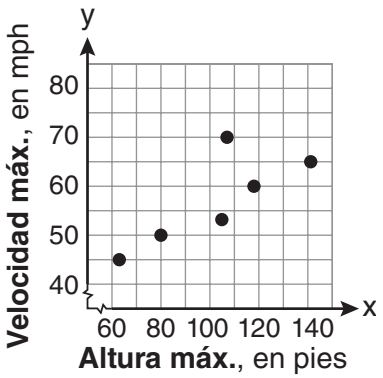
(4) 58.5

Utilice este espacio para sus cálculos.

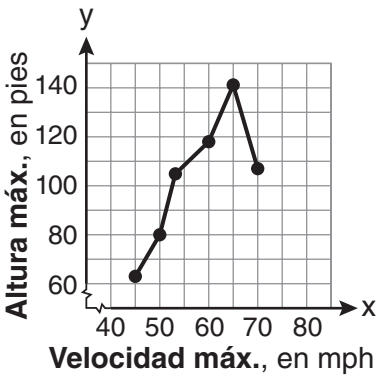
15 La velocidad y la altura máximas de varias montañas rusas de América del Norte se muestran en la siguiente tabla.

Velocidad máxima, en mph, (x)	45	50	54	60	65	70
Altura máxima, en pies, (y)	63	80	105	118	141	107

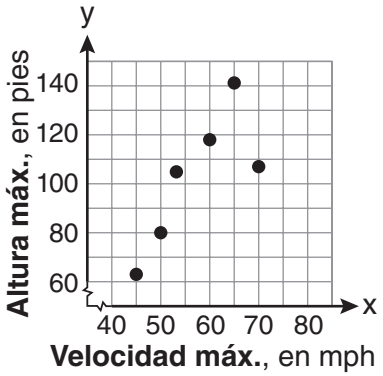
¿Qué gráfico representa un diagrama de dispersión correcto de los datos?



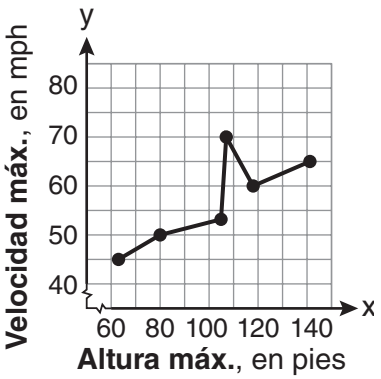
(1)



(3)



(2)



(4)

16 ¿Qué conjunto de pares ordenados representa una función?

(1) {(0,4), (2,4), (2,5)}

(2) {(6,0), (5,0), (4,0)}

(3) {(4,1), (6,2), (6,3), (5,0)}

(4) {(0,4), (1,4), (0,5), (1,5)}

Utilice este espacio para sus cálculos.

17 Un excursionista camina 12.8 millas desde las 9:00 a.m. hasta el mediodía. Caminó 17.2 millas más desde la 1:00 p.m. hasta las 6:00 p.m. ¿Cuál es la velocidad promedio de toda la caminata, en millas por hora?

(1) 3.75
(2) 3.86
(3) 4.27
(4) 7.71

18 ¿Qué par ordenado es una solución del sistema de ecuaciones $y = x + 3$ y $y = x^2 - x$?

(1) (6,9)
(2) (3,6)
(3) (3,–1)
(4) (2,5)

19 ¿Qué expresión verbal se puede representar mediante $2(x - 5)$?

(1) 5 menos que 2 veces x
(2) 2 multiplicado por x menos que 5
(3) el doble de la diferencia de x y 5
(4) el producto de 2 y x, menos 5

20 Se calcula que las dimensiones de un rectángulo son 12.2 pulgadas por 11.8 pulgadas. Las dimensiones reales son 12.3 pulgadas por 11.9 pulgadas. ¿Cuál es el error relativo, a la *diezmilésima más cercana*, al calcular el área del rectángulo?

(1) 0.0168
(2) 0.0167
(3) 0.0165
(4) 0.0164

Utilice este espacio para sus cálculos.

21 Un ejemplo de una expresión algebraica es

(1) $y = mx + b$ (3) $2x + 3y \leq 18$

(2) $3x + 4y - 7$ (4) $(x + y)(x - y) = 25$

22 Un estudio demostró que una disminución en el costo de las zanahorias generó un aumento en la cantidad de zanahorias vendidas. ¿Qué enunciado describe mejor esta relación?

(1) correlación positiva y relación causal

(2) correlación negativa y relación causal

(3) correlación positiva y relación no causal

(4) correlación negativa y relación no causal

23 Dado: $A = \{3, 6, 9, 12, 15\}$
$B = \{2, 4, 6, 8, 10, 12\}$

¿Cuál es la unión de los conjuntos A y B?

(1) $\{6\}$ (3) $\{2, 3, 4, 8, 9, 10, 15\}$

(2) $\{6, 12\}$ (4) $\{2, 3, 4, 6, 8, 9, 10, 12, 15\}$

24 El valor de un automóvil que se compró a $20,000 disminuyó a razón de 12% por año. ¿Cuál será el valor del auto después de 3 años?

(1) $12,800.00 (3) $17,600.00

(2) $13,629.44 (4) $28,098.56

Utilice este espacio para sus cálculos.

25 ¿Para cuál conjunto de valores de x, la ecuación algebraica $\frac{x^2 - 16}{x^2 - 4x - 12}$ es indefinida?

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

26 Michael es 25 años menor que su padre. La suma de sus edades es 53. ¿Qué edad tiene Michael?

(1) 14
(2) 25
(3) 28
(4) 39

27 ¿Cuál es el producto de (6×10^3), (4.6×10^5) y (2×10^{-2}) expresado en notación científica?

(1) 55.2×10^6
(2) 5.52×10^7
(3) 55.2×10^7
(4) 5.52×10^{10}

28 ¿Qué notación describe $\{1, 2, 3\}$?

(1) $\{x|1 \leq x < 3$, donde x es un número entero$\}$
(2) $\{x|0 < x \leq 3$, donde x es un número entero$\}$
(3) $\{x|1 < x < 3$, donde x es un número entero$\}$
(4) $\{x|0 \leq x \leq 3$, donde x es un número entero$\}$

Utilice este espacio para sus cálculos.

29 ¿Cómo se expresa $\frac{7}{12x} - \frac{y}{6x^2}$ en la forma más simple?

(1) $\frac{7 - y}{6x}$

(2) $\frac{7 - y}{12x - 6x^2}$

(3) $\frac{7y}{12x^2}$

(4) $\frac{7x - 2y}{12x^2}$

30 Cuando $5x + 4y$ se le resta a $5x - 4y$, la diferencia es

(1) 0

(2) $10x$

(3) $8y$

(4) $-8y$

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 El área de un rectángulo se representa mediante $x^2 - 5x - 24$. Si el ancho del rectángulo se representa mediante $x - 8$, exprese la longitud del rectángulo como un binomio.

32 A continuación se muestra un método para resolver $5(x - 2) - 2(x - 5) = 9$. Identifique la propiedad utilizada para obtener *cada uno* de los dos pasos indicados.

$5(x - 2) - 2(x - 5) = 9$

(1) $5x - 10 - 2x + 10 = 9$ (1) _____

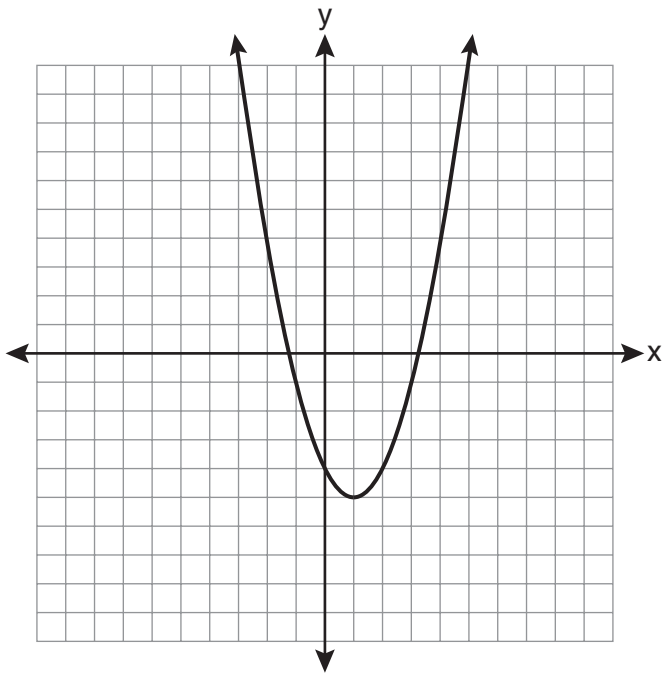
(2) $5x - 2x - 10 + 10 = 9$ (2) _____

$3x + 0 = 9$

$3x = 9$

$x = 3$

33 Enuncie la ecuación del eje de simetría y las coordenadas del vértice de la parábola graficada a continuación.



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 Dada la siguiente lista de calificaciones de los estudiantes en un examen: 5, 12, 7, 15, 20, 14, 7

Determine la mediana de estos resultados.

Determine el modo de estos resultados.

El maestro decide ajustar estos resultados añadiendo tres puntos a cada resultado. Explique el efecto, si lo hay, que esto tendrá en la mediana y el modo de estos resultados.

35 Chelsea tiene \$45 para gastar en la feria. Gasta \$20 en la entrada y \$15 en refrigerios. Ella quiere participar en un juego que cuesta \$0.65 por vez. Escriba una desigualdad para encontrar la cantidad máxima de veces, x, que Chelsea puede participar en el juego.

Usando esta desigualdad, determine el número máximo de veces que Chelsea puede participar en el juego.

36 Una caja de almacenamiento de plástico con forma de prisma rectangular tiene una longitud de $x + 3$, un ancho de $x - 4$ y una altura de 5.

Represente el área de la superficie de la caja como un trinomio en términos de x.

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 Resuelva algebraicamente el valor de x: $\frac{3}{4} = \frac{-(x + 11)}{4x} + \frac{1}{2x}$

38 El conjunto que Jennifer usa para asistir a la escuela consta de una prenda para la parte superior, una prenda para la parte inferior y zapatos. Las opciones posibles se indican a continuación.

Prendas para la parte superior: camiseta, blusa, suéter

Prendas para la parte inferior: pantalones vaqueros, falda, pantalones capri

Zapatos: chancletas, zapatillas

Enumere el espacio muestral o dibuje un diagrama de árbol para representar todos los posibles conjuntos que constan de un tipo de prenda para la parte superior, un tipo de prenda para la parte inferior y un par de zapatos.

Determine cuántos conjuntos diferentes constan de pantalones vaqueros y chancletas.

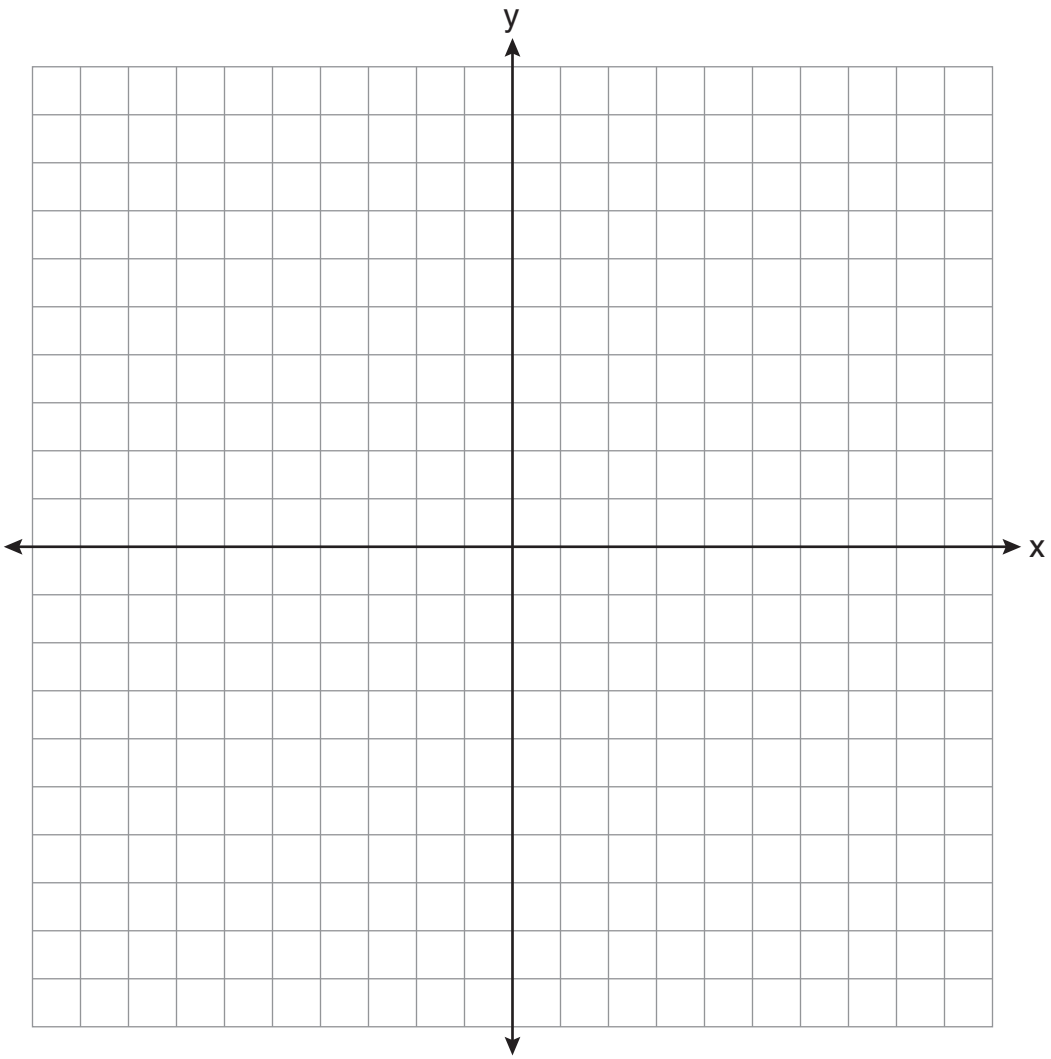
Determine cuántos conjuntos diferentes *no* incluyen un suéter.

39 Resuelva el siguiente sistema de desigualdades gráficamente en el conjunto de ejes a continuación.

$$3x + y < 7$$

$$y \geq \frac{2}{3}x - 4$$

Escriba las coordenadas de un punto en el conjunto de soluciones.



Desprender por la línea perforada

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Papel cuadriculado de borrador — Esta hoja 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

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Thursday, June 16, 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*.

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.

Beginning in June 2011, schools are no longer 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, June 16, 2011. Because scale scores corresponding to raw scores in the conversion chart may 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 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 . . . . . **3**	11 . . . . . **4**	21 . . . . . **2** . . . . .
2 . . . . . **3**	12 . . . . . **4**	22 . . . . . **2** . . . . .
3 . . . . . **1**	13 . . . . . **2**	23 . . . . . **4** . . . . .
4 . . . . . **3**	14 . . . . . **1**	24 . . . . . **2** . . . . .
5 . . . . . **2**	15 . . . . . **2**	25 . . . . . **4** . . . . .
6 . . . . . **3**	16 . . . . . **2**	26 . . . . . **1** . . . . .
7 . . . . . **1**	17 . . . . . **1**	27 . . . . . **2** . . . . .
8 . . . . . **2**	18 . . . . . **2**	28 . . . . . **2** . . . . .
9 . . . . . **4**	19 . . . . . **3**	29 . . . . . **4** . . . . .
10 . . . . . **3**	20 . . . . . **3**	30 . . . . . **4** . . . . .

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]** $x + 3$, and appropriate work is shown.

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

or

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

or

[1] $x + 3$, 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.

(32) **[2]** The distributive property in line 1 and commutative property in line 2 are identified.

[1] One line is identified correctly.

[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]** $x = 1$ and $(1, -5)$ are stated.

[1] $x = 1$ or $(1, -5)$ is stated.

[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]** 12 and 7, and an appropriate explanation is given, such as both the median and mode will increase by 3.

[2] Appropriate work is shown, but one computational error is made, but appropriate values are found for the median and mode, and an appropriate explanation is given.

or

[2] 12 or 7, and an appropriate explanation is given.

or

[2] 12 and 7, but no further correct work is shown.

[1] Appropriate work is shown, but two or more computational errors are made, but appropriate values are found for the median and mode, and an appropriate explanation is given.

or

[1] Appropriate work is shown, but one conceptual error is made, but appropriate values are found for the median and mode, and an appropriate explanation is given.

or

[1] 12 or 7 or an appropriate explanation is given.

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

(35) **[3]** A correct inequality is written and 15, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made, but an appropriate number of games is stated.

or

[2] A correct inequality is written and is solved for x, but 15 is not stated.

or

[2] $20 + 15 + 0.65x = 45$ or an equivalent equation is written and is solved for x, and 15 is stated.

[1] Appropriate work is shown, but two or more computational errors are made, but an appropriate number of games is stated.

or

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

or

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

or

[1] 15, but no work is shown.

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

(36) **[3]** $2x^2 + 18x - 34$, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made, but an appropriate surface area written as a trinomial is found.

or

[2] Appropriate work is shown to find $x^2 + 9x - 17$, but no further correct work is shown.

[1] Appropriate work is shown, but two or more computational errors are made, but an appropriate surface area written as a trinomial is found.

or

[1] Appropriate work is shown, but one conceptual error is made, such as finding the volume, but the answer is written as a trinomial.

or

[1] Appropriate substitutions are made into the formula, but no further correct work is shown.

or

[1] $2x^2 + 18x - 34$, 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]** $-\frac{9}{4}$ or an equivalent answer, and appropriate algebraic work is shown.

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

[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] $3x = -(x + 11) + 2$ or an equivalent equation is written, but no further correct work is shown.

or

[2] $-\frac{9}{4}$ or an equivalent answer, 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] $-\frac{9}{4}$ 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.

(38) **[4]** A correct sample space or tree diagram is shown, and 3 and 12 are stated.

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

or

[3] A correct sample space or tree diagram is shown, but only 3 or 12 is stated.

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

or

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

or

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

or

[2] An incomplete sample space or tree diagram of at least 12 outcomes is shown, but appropriate solutions are stated.

[1] An incomplete sample space or tree diagram of at least 12 outcomes is shown, and only one appropriate solution is stated.

or

[1] 3 and 12, but no work is shown.

[0] 3 or 12, 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]** Both inequalities are graphed and shaded correctly, and at least one is labeled, and the coordinates of a point in the solution set are stated correctly.

[3] Appropriate work is shown, but one graphing error is made, such as drawing a dashed line instead of a solid line or shading incorrectly, but the appropriate coordinates of a point in the solution set are stated.

or

[3] Both inequalities are graphed and shaded correctly, and the coordinates of a point in the solution set are stated correctly, 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 coordinates of a point in the solution set are not stated or are stated incorrectly.

[2] Appropriate work is shown, but two or more graphing or labeling errors are made, but the appropriate coordinates of a point in the solution set are stated.

or

[2] Appropriate work is shown, but one conceptual error is made, such as graphing the lines $y = -3x + 7$ and $y = \frac{2}{3}x - 4$ and stating $(3, -2)$.

or

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

or

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

[1] Appropriate work is shown, but one conceptual error and one graphing or labeling error are made, but the appropriate coordinates of a point in the solution set are stated.

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

Regents Examination in Integrated Algebra

June 2011

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

The *Chart for Determining the Final Examination Score for the June 2011 Regents Examination in Integrated Algebra* will be posted on the Department's web site at: http://www.p12.nysed.gov/apda/ on Thursday, June 16, 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 – June 2011

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

Raw Score	Scale Score
87	100
86	99
85	97
84	96
83	95
82	94
81	93
80	92
79	91
78	90
77	90
76	89
75	88
74	88
73	87
72	87
71	86
70	86
69	86
68	86
67	85
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	80
55	80
54	80
53	79
52	79
51	78
50	78
49	77
48	77
47	76
46	76
45	75
44	75

Raw Score	Scale Score
43	74
42	73
41	73
40	72
39	71
38	71
37	70
36	69
35	68
34	68
33	67
32	66
31	65
30	64
29	63
28	62
27	61
26	59
25	58
24	57
23	56
22	54

Raw Score	Scale Score
21	53
20	51
19	50
18	48
17	46
16	44
15	42
14	40
13	38
12	36
11	34
10	31
9	29
8	26
7	24
6	21
5	18
4	15
3	11
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.

Beginning in June 2011, schools are no longer 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.