SPANISH EDITION
INTEGRATED ALGEBRA
THURSDAY, JANUARY 28, 2010
1:15 TO 4:15 P.M., ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

ÁLGEBRA INTEGRADA

Jueves, 28 de enero de 2010 — 1:15 a 4:15 p.m., solamente

Nombre del estudiante: _____

Nombre de la escuela: _____

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

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

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

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

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

Aviso…

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

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

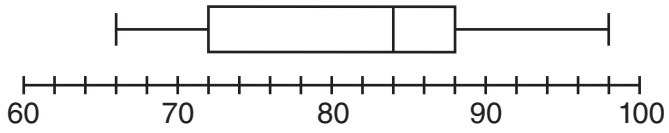
NO ABRA ESTE FOLLETO DE EXAMEN HASTA QUE SE LE INDIQUE.

Parte I

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

Utilice este espacio para sus cálculos.

1 El siguiente diagrama de caja y línea representa los resultados de los exámenes de matemáticas de 20 estudiantes.



¿Qué porcentaje de los resultados de los exámenes es *menos que* 72?

(1) 25
(2) 50
(3) 75
(4) 100

2 Una bolsa contiene ocho canicas verdes, cinco canicas blancas y dos canicas rojas. ¿Cuál es la probabilidad de sacar una canica roja de la bolsa?

(1) $\frac{1}{15}$
(2) $\frac{2}{15}$
(3) $\frac{2}{13}$
(4) $\frac{13}{15}$

3 Julia fue al cine y compró una bolsa grande de palomitas de maíz y dos galletas con pedacitos de chocolate por $5.00. Marvin fue al mismo cine y compró una bolsa grande de palomitas de maíz y cuatro galletas con pedacitos de chocolate por $6.00. ¿Cuál es el precio de una galleta con pedacitos de chocolate?

(1) $0.50
(2) $0.75
(3) $1.00
(4) $2.00

Utilice este espacio para sus cálculos.

4 Dado:

$Q = \{0, 2, 4, 6\}$

$W = \{0, 1, 2, 3\}$

$Z = \{1, 2, 3, 4\}$

¿Cuál es la intersección de los conjuntos Q, W y Z?

(1) $\{2\}$ (3) $\{1, 2, 3\}$

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

5 Roger está realizando un picnic para 78 invitados. El planea servir a cada invitado por lo menos un perro caliente (hot dog). Si cada paquete, p, contiene ocho perros calientes, ¿qué desigualdad podría ser usada para determinar cuántos paquetes de perros calientes necesitará comprar Roger?

(1) $p \geq 78$ (3) $8 + p \geq 78$

(2) $8p \geq 78$ (4) $78 - p \geq 8$

6 En una novela de ciencia ficción, el personaje principal encontró una roca misteriosa que disminuía en tamaño cada día. La siguiente tabla muestra lo que queda de la roca al mediodía en días consecutivos.

Día	Parte fraccional que quedó de la roca
1	1
2	$\frac{1}{2}$
3	$\frac{1}{4}$
4	$\frac{1}{8}$

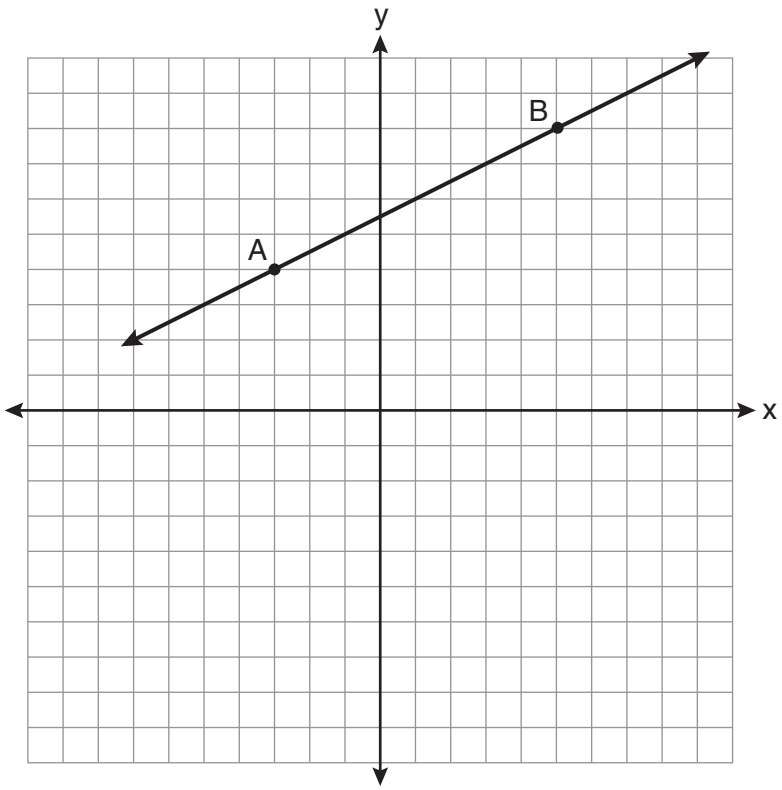
¿Qué parte fraccional de la roca quedará al mediodía el día 7?

(1) $\frac{1}{128}$ (3) $\frac{1}{14}$

(2) $\frac{1}{64}$ (4) $\frac{1}{12}$

Utilice este espacio para sus cálculos.

7 En el siguiente diagrama, ¿cuál es la pendiente de la línea que pasa a través de los puntos *A* y *B*?



(1) -2

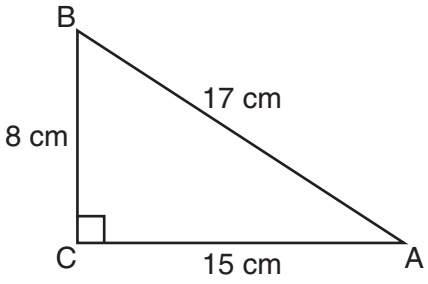
(2) 2

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

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

Utilice este espacio para sus cálculos.

8 ¿Qué ecuación muestra una razón trigonométrica correcta para el ángulo A en el siguiente triángulo rectángulo?



(1) $\text{sen}\, A = \frac{15}{17}$

(2) $\tan A = \frac{8}{17}$

(3) $\cos A = \frac{15}{17}$

(4) $\tan A = \frac{15}{8}$

9 Debbie resolvió la ecuación lineal $3(x + 4) - 2 = 16$ como se muestra a continuación:

[Línea 1] $3(x + 4) - 2 = 16$

[Línea 2] $3(x + 4) = 18$

[Línea 3] $3x + 4 = 18$

[Línea 4] $3x = 14$

[Línea 5] $x = 4\frac{2}{3}$

Ella cometió un error entre las líneas

(1) 1 y 2

(2) 2 y 3

(3) 3 y 4

(4) 4 y 5

Utilice este espacio para sus cálculos.

10 El valor de la expresión $-|a - b|$ cuando $a = 7$ y $b = -3$ es

(1) -10

(2) 10

(3) -4

(4) 4

11 ¿Qué expresión representa $\frac{12x^3 - 6x^2 + 2x}{2x}$ en su forma más simple?

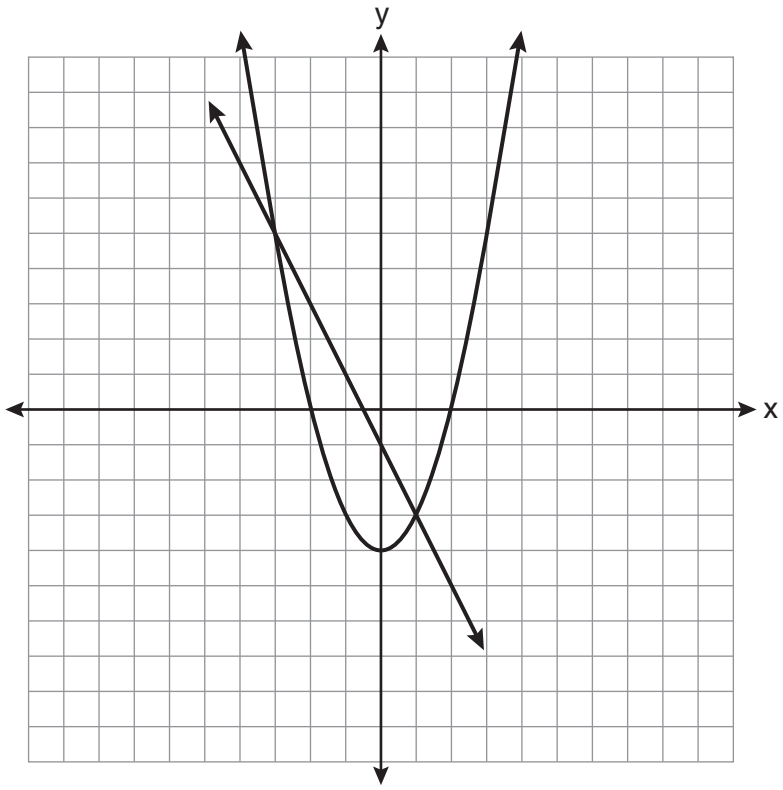
(1) $6x^2 - 3x$

(2) $10x^2 - 4x$

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

(4) $10x^2 - 4x + 1$

12 ¿Qué par ordenado es una solución del sistema de ecuaciones mostradas en el siguiente gráfico?



(1) (–3,1)

(2) (–3,5)

(3) (0,–1)

(4) (0,–4)

Utilice este espacio para sus cálculos.

13 ¿Qué ecuación representa la línea que pasa a través de los puntos (–3,7) y (3,3)?

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

(2) $y = \frac{2}{3}x + 9$

(3) $y = -\frac{2}{3}x + 5$

(4) $y = -\frac{2}{3}x + 9$

14 ¿Qué tabla de datos representa la información de una sola variable?

Longitud del Lado de un Cuadrado	Área del Cuadrado
2	4
3	9
4	16
5	25

(1)

Edad del Grupo	Frecuencia
20–29	9
30–39	7
40–49	10
50–59	4

(3)

Horas Trabajadas	Pago
20	$160
25	$200
30	$240
35	$280

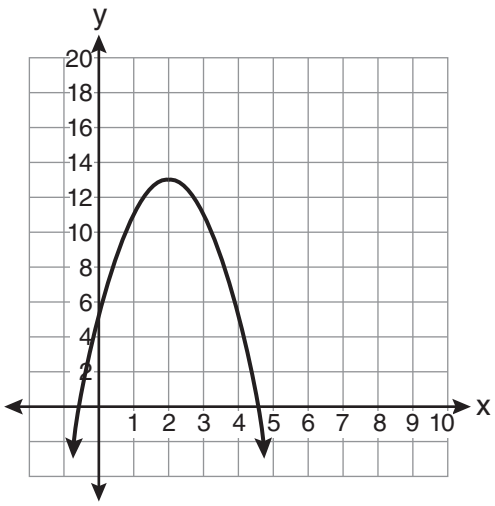
(2)

Personas	Número de Dedos
2	20
3	30
4	40
5	50

(4)

15 ¿Cuál es la ecuación del eje de simetría de la parábola que se muestra en el siguiente diagrama?

Utilice este espacio para sus cálculos.



(1) $x = -0.5$

(2) $x = 2$

(3) $x = 4.5$

(4) $x = 13$

16 Los miembros de la clase más avanzada están planeando un baile. Ellos usan la ecuación $r = pn$ para determinar el total de entradas. ¿Qué es n expresada en términos de r y p?

(1) $n = r + p$

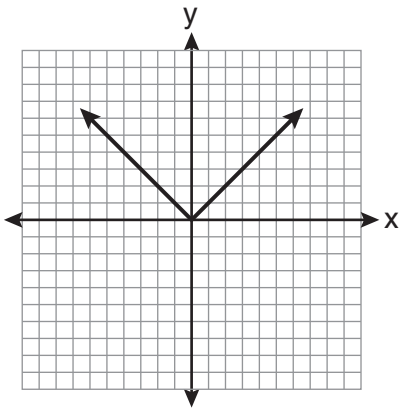
(2) $n = r - p$

(3) $n = \frac{p}{r}$

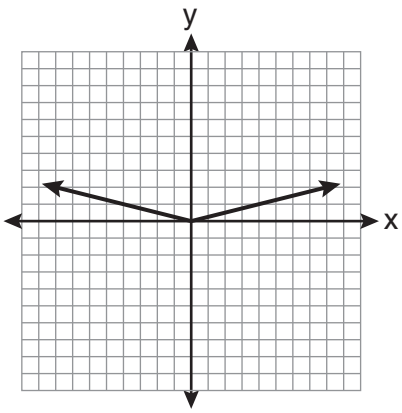
(4) $n = \frac{r}{p}$

17 El gráfico de la ecuación $y = |x|$ se muestra en el siguiente diagrama.

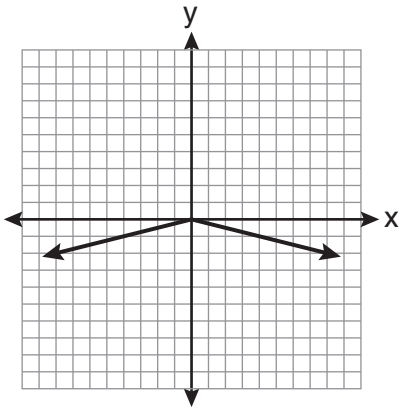
Utilice este espacio para sus cálculos.



¿Qué diagrama podría representar un gráfico de la ecuación $y = a|x|$ cuando $-1 < a < 0$?



(1)



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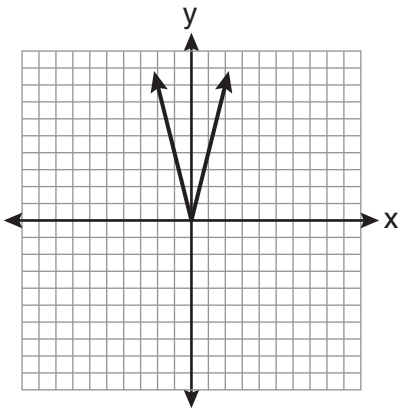

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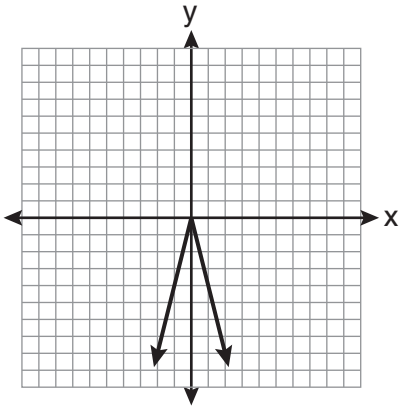


(4)

Utilice este espacio para sus cálculos.

18 ¿Qué relación representa una función?

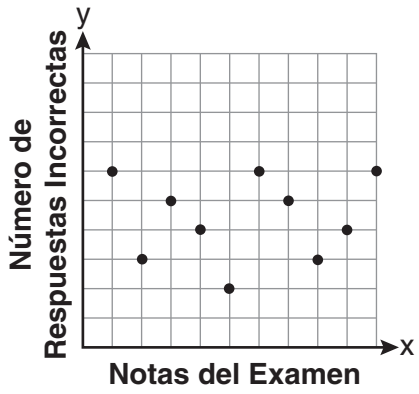
(1) {(0,3), (2,4), (0,6)}

(2) {(–7,5), (–7,1), (–10,3), (–4,3)}

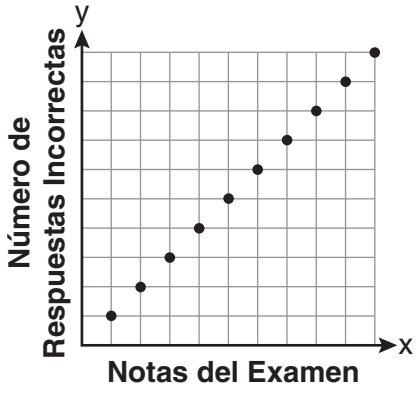
(3) {(2,0), (6,2), (6,–2)}

(4) {(–6,5), (–3,2), (1,2), (6,5)}

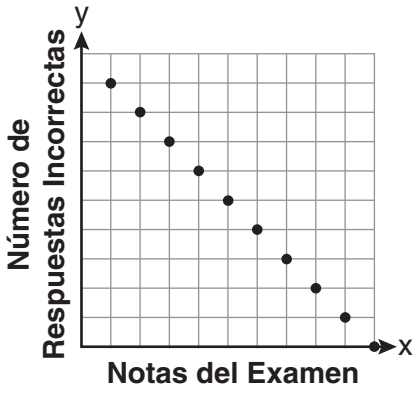
19 ¿Qué diagrama de dispersión muestra la relación entre x e y si x representa la nota de un estudiante en un examen e y representa el número de respuestas incorrectas que recibió el estudiante en el mismo examen?



(1)



(3)



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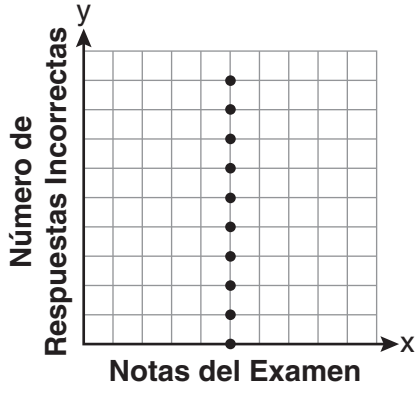


(4)

Utilice este espacio para sus cálculos.

20 ¿Qué expresión es equivalente a $3^3 \bullet 3^4$?

(1) 9^{12} (3) 3^{12}

(2) 9^7 (4) 3^7

21 ¿Qué punto está en la línea $4y - 2x = 0$?

(1) $(-2,-1)$ (3) $(-1,-2)$

(2) $(-2,1)$ (4) $(1,2)$

22 Si Ann descompone en factores, correctamente, una expresión que es la diferencia de dos cuadrados perfectos, sus factores podrían ser

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

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

23 ¿Qué par ordenado está en el conjunto de soluciones del siguiente sistema de desigualdades lineales?

$$y < 2x + 2$$
$$y \geq -x - 1$$

(1) $(0,3)$ (3) $(-1,0)$

(2) $(2,0)$ (4) $(-1,-4)$

Utilice este espacio para sus cálculos.

24 La expresión $6\sqrt{50} + 6\sqrt{2}$ escrita en la forma radical más simple es

(1) $6\sqrt{52}$

(2) $12\sqrt{52}$

(3) $17\sqrt{2}$

(4) $36\sqrt{2}$

25 ¿Cuál es la suma de $\frac{3x^2}{x-2}$ y $\frac{x^2}{x-2}$?

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

(2) $\frac{3x^4}{x-2}$

(3) $\frac{4x^2}{(x-2)^2}$

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

26 ¿Qué ecuación representa una línea paralela al gráfico de $2x - 4y = 16$?

(1) $y = \frac{1}{2}x - 5$

(2) $y = -\frac{1}{2}x + 4$

(3) $y = -2x + 6$

(4) $y = 2x + 8$

27 Un ejemplo de una expresión algebraica es

(1) $\frac{2x+3}{7} = \frac{13}{x}$

(2) $(2x + 1)(x - 7)$

(3) $4x - 1 = 4$

(4) $x = 2$

Utilice este espacio para sus cálculos.

28 ¿Cuál es el conjunto de soluciones de $\frac{x+2}{x-2} = \frac{-3}{x}$?

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

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

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

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

29 ¿Cuántas pulgadas cuadradas de papel de envolver se necesitan para cubrir por completo una caja que mide 2 pulgadas por 3 pulgadas por 4 pulgadas?

(1) 18

(2) 24

(3) 26

(4) 52

30 ¿Qué situación describe una correlación que *no* es una relación causal?

(1) la longitud del borde de un cubo y el volumen del cubo

(2) la distancia viajada y el tiempo que se demoró manejando

(3) la edad de un niño y el número de hermanos(as) que tiene el niño

(4) el número de clases que se enseñan en una escuela y el número de profesores que trabajan ahí

Parte II

Responda las 3 preguntas en 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 Angela quiere comprar alfrombrado para su sala. Las dimensiones de su sala son 12 pies por 12 pies. Si el alfombrado se vende por yarda cuadrada, determine cuantas yardas cuadradas de alfombrado ella debe comprar.

3 pies = 1 yarda
9 pies cuadrados = 1 yarda cuadrada

32 En el triángulo rectángulo ABC, $AB = 20$, $AC = 12$, $BC = 16$ y $m\angle C = 90$.

Encuentre, al *grado más cercano*, la medida de $\angle A$.

33 Jon está comprando entradas para él para dos conciertos. Para el concierto de jazz, hay 4 entradas disponibles en la primera fila y 32 entradas disponibles en las otras filas. Para el concierto de la orquesta, hay 3 entradas disponibles en la primera fila y 23 entradas disponibles en las otras filas. Se le asigna al azar a Jon una entrada para cada concierto.

Determine el concierto para el cual es más probable que él reciba una entrada en la primera fila. Justifique su respuesta.

Parte III

Responda las 3 preguntas en 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 Encuentre, algebraicamente, las raíces de la ecuación $x^2 - x = 6$.

35 La señorita Mosher registró las notas de los exámenes de matemáticas de seis estudiantes en la siguiente tabla.

Estudiante	Nota del Estudiante
Andrew	72
John	80
George	85
Amber	93
Betty	78
Roberto	80

Determine la media de las notas de los estudiantes, a la *décima más cercana*.

Determine la mediana de las notas de los estudiantes.

Describa el efecto en la media y en la mediana si la señorita Mosher agrega 5 puntos adicionales a cada una de las notas de los seis estudiantes.

36 Howell usó su regla, para medir los lados de un prisma rectangular de 5 cm por 8 cm por 4 cm. Las medidas actuales son 5.3 cm por 8.2 cm por 4.1 cm. Encuentre el error relativo de Howell al calcular el volumen del prisma a la *milésima más cercana*.

Parte IV

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

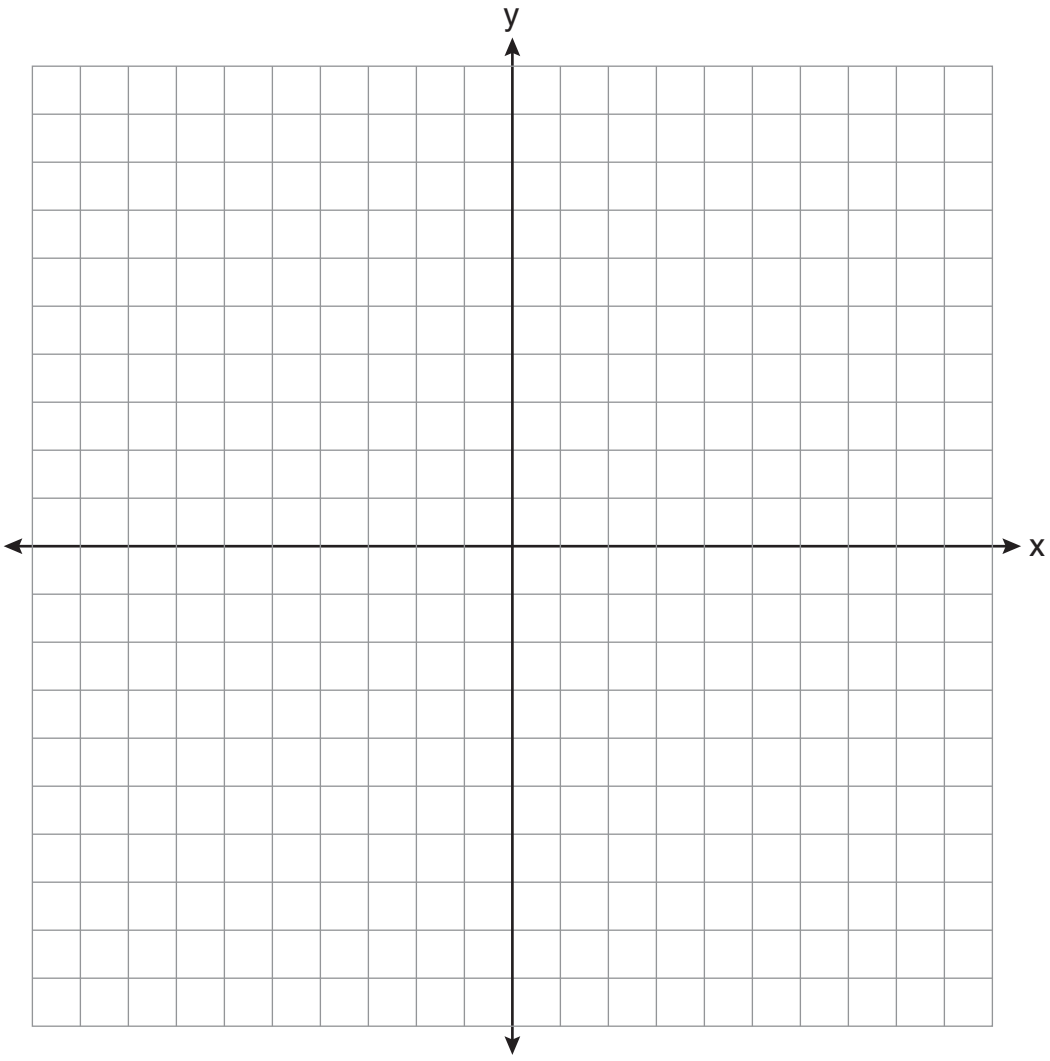
37 Una clave consiste de tres dígitos, del 0 al 9, seguido por tres letras de un alfabeto que tiene 26 letras.

Si se permite la repetición de dígitos, pero no la repetición de letras, determine el número de claves diferentes que se pueden hacer.

Si no se permitiera la repetición de dígitos o letras, determine cuantas claves menos se pueden hacer.

38 Dibuje el gráfico del conjunto de soluciones para la desigualdad $4x - 3y > 9$ en el conjunto de ejes a continuación.

Determine si el punto (1,–3) está en el conjunto de soluciones. Justifique su respuesta.



39 Encuentre tres números enteros pares positivos consecutivos de tal manera que el producto del segundo y el tercer número entero es veinte más que diez veces el primer número entero. [Sólo una solución algebraica puede recibir crédito total].

Desprender por la línea perforada

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

Desprender por la línea perforada

Desprender por la línea perforada

Desprender por la línea perforada

Desprender por la línea perforada

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

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Desprender por la línea perforada

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ÁLGEBRA INTEGRADA

Jueves, 28 de enero de 2010 — 1:15 a 4:15 p.m., solamente

HOJA DE RESPUESTAS

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

Profesor ..... Escuela .....

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

Parte I

Conteste las 30 preguntas de esta parte.

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

Sus respuestas para las Partes II, III y IV deberá escribirlas en el folleto de examen.

La siguiente declaración debe ser firmada cuando usted haya finalizado el examen.

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

Firma

Desprender por la línea perforada

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

Total Raw Score

Checked by

Scale Score
(from conversion chart)

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

Desprender por la línea perforada

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INTEGRATED ALGEBRA SPANISH EDITION

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Thursday, January 28, 2010 — 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 Integrated Algebra and Geometry*.

Use only *red* ink or *red* pencil in rating Regents papers. Do *not* attempt to correct the student's work by making insertions or changes of any kind. Use check marks to indicate student errors.

Unless otherwise specified, mathematically correct variations in the answers will be allowed. Units need not be given when the wording of the questions allows such omissions.

Each student's answer paper is to be scored by a minimum of three mathematics teachers. On the back of the student's detachable answer sheet, raters must enter their initials in the boxes next to the questions they have scored and also write their name in the box under the heading "Rater's/Scorer's Name."

Raters should record the student's scores for all questions and the total raw score on the student's detachable answer sheet. Then the student's total raw score should be converted to a scale score by using the conversion chart that will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Thursday, January 28, 2010. The student's scale score should be entered in the box provided on the student's detachable answer sheet. The scale score is the student's final examination score.

Part I

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

(1) 1	(9) 2	(17) 3	(25) 4
(2) 2	(10) 1	(18) 4	(26) 1
(3) 1	(11) 3	(19) 2	(27) 2
(4) 1	(12) 2	(20) 4	(28) 4
(5) 2	(13) 3	(21) 1	(29) 4
(6) 2	(14) 3	(22) 2	(30) 3
(7) 4	(15) 2	(23) 2	
(8) 3	(16) 4	(24) 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 http://www.emsc.nysed.gov/osa/ and select the link "Examination Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents examination period.

General Rules for Applying Mathematics Rubrics

I. General Principles for Rating

The rubrics for the constructed-response questions on the Regents Examinations 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 Integrated Algebra and Geometry*, 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, charts, etc." The student has the responsibility of providing the correct answer ***and*** showing how that answer was obtained. The student must "construct" the response; the teacher should not have to search through a group of seemingly random calculations scribbled on the student paper to ascertain what method the student may have used.

Responses With Errors: Rubrics that state "Appropriate work is shown, but …" are intended to be used with solutions that show an essentially complete response to the question but contain certain types of errors, whether computational, rounding, graphing, or conceptual. If the response is incomplete; i.e., an equation is written but not solved or an equation is solved but not all of the parts of the question are answered, appropriate work has ***not*** been shown. Other rubrics address incomplete responses.

IV. Multiple Errors

Computational Errors, Graphing Errors, and Rounding Errors: Each of these types of errors results in a 1-credit deduction. Any combination of two of these types of errors results in a 2-credit deduction. No more than 2 credits should be deducted for such mechanical errors in any response. The teacher must carefully review the student's work to determine what errors were made and what type of errors they were.

Conceptual Errors: A conceptual error involves a more serious lack of knowledge or procedure. Examples of conceptual errors include using the incorrect formula for the area of a figure, choosing the incorrect trigonometric function, or multiplying the exponents instead of adding them when multiplying terms with exponents. A response with one conceptual error can receive no more than half credit.

If a response shows repeated occurrences of the same conceptual error, the student should not be penalized twice. If the same conceptual error is repeated in responses to other questions, credit should be deducted in each response.

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

If a response shows one conceptual error and one computational, graphing, or rounding error, the teacher must award credit that takes into account both errors; i.e., awarding half credit for the conceptual error and deducting 1 credit for each mechanical error (maximum of two deductions for mechanical errors).

Part II

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

(31) **[2]** 16, and appropriate work is shown.

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

or

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

or

[1] 16, 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]** 53, and appropriate work is shown.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as using an incorrect trigonometric function.

or

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

or

[1] 53, 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]** Orchestra, and appropriate work is shown as justification.

[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 not dividing by the total number of tickets available.

or

[1] Appropriate work is shown, but orchestra is not stated.

[0] Orchestra, 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 III

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

(34) **[3]** –2 and 3, and appropriate algebraic work is shown.

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

or

[2] Appropriate work is shown to find $(x - 3)(x + 2) = 0$, but no further correct work is shown.

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

or

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

or

[1] An appropriate quadratic equation in standard form (set equal to zero) is written, but no further correct work is shown.

or

[1] –2 and 3, but a method other than algebraic is used.

or

[1] –2 and 3, but no work is shown.

[0] –2 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.

(35) **[3]** Mean = 81.3, median = 80, and appropriate work is shown, and an appropriate description is given, such as that both the mean and median will increase or that the mean becomes 86.3 and the median becomes 85.

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

or

[2] Mean = 81.3, median = 80, and appropriate work is shown, but the description is missing or is incorrect.

or

[2] Mean = 81.3 and median = 80, but no work is shown, but an appropriate description is given.

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

or

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

or

[1] Mean = 81.3 and median = 80, but no work is shown, and no description is given.

[0] Mean = 81.3 or median = 80, but no work is shown, and no description is given.

or

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

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

or

[2] $\frac{178.186-160}{178.186}$ or an equivalent expression, but the relative error is not found or is found incorrectly.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as dividing by 160.

or

[1] Appropriate work is shown to find 160 and 178.186, but no further correct work is shown.

or

[1] 0.102, but no work is shown.

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

Part IV

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

(37) **[4]** 15,600,000 and 4,368,000, and appropriate work is shown.

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

or

[3] Appropriate work is shown to find 15,600,000 and 11,232,000, but the values are not subtracted.

[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.

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

or

[1] Appropriate work is shown to find 15,600,000 or 11,232,000, but no further correct work is shown.

or

[1] 10•10•10•26•25•24 and 10•9•8•26•25•24, but no further correct work is shown.

or

[1] 15,600,000 and 4,368,000, but no work is shown.

[0] 15,600,000 or 4,368,000, 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]** The inequality is graphed correctly, and "yes" and an appropriate justification is given, such as plotting the point or checking algebraically.

[3] Appropriate work is shown, but one graphing error is made, such as drawing a solid line or shading incorrectly, but an appropriate answer and justification are given.

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

or

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

or

[2] The inequality is graphed correctly, but no further correct work is shown.

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

or

[1] The line $4x - 3y = 9$ is graphed correctly, but no further correct work is shown.

or

[1] Algebraic work is shown determining that (1,–3) is in the solution set, but no graph is shown.

[0] "Yes," 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]** 6, 8, and 10, and appropriate algebraic work is shown.

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

or

[3] Appropriate work is shown, but only one correct positive integer is found.

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

or

[2] Appropriate work is shown, but one conceptual error is made, such as finding consecutive integers.

or

[2] A correct quadratic equation in standard form (set equal to zero) is written, but no further correct work is shown.

or

[2] 6, 8, and 10, but a method other than algebraic is used.

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

or

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

or

[1] 6, 8, and 10, but no work is shown.

[0] 6 or 8 or 10, but no work is shown.

or

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

Map to Core Curriculum

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

Regents Examination in Integrated Algebra

January 2010

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

The *Chart for Determining the Final Examination Score for the January 2010 Regents Examination in Integrated Algebra* will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Thursday, January 28, 2010. Conversion charts provided for previous administrations of the Integrated Algebra examination must NOT be used to determine students' final scores for this administration.

Submitting Teacher Evaluations of the Test to the Department

Suggestions and feedback from teachers provide an important contribution to the test development process. The Department provides an online evaluation form for State assessments. It contains spaces for teachers to respond to several specific questions and to make suggestions. Instructions for completing the evaluation form are as follows:

1. Go to www.emsc.nysed.gov/osa/exameval.
2. Select the test title.
3. Complete the required demographic fields.
4. Complete each evaluation question and provide comments in the space provided.
5. Click the SUBMIT button at the bottom of the page to submit the completed form.

University of the State of New York
State Education Department

Regents Examination in Integrated Algebra
January 2010

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	85	43	76	21	51
86	99	64	84	42	75	20	49
85	98	63	84	41	75	19	48
84	96	62	84	40	74	18	46
83	95	61	84	39	73	17	44
82	94	60	83	38	73	16	42
81	94	59	83	37	72	15	39
80	93	58	83	36	71	14	37
79	92	57	82	35	70	13	35
78	91	56	82	34	69	12	33
77	91	55	82	33	68	11	30
76	90	54	81	32	67	10	28
75	89	53	81	31	66	9	25
74	89	52	81	30	65	8	23
73	88	51	80	29	63	7	20
72	88	50	80	28	62	6	17
71	87	49	79	27	61	5	15
70	87	48	79	26	59	4	12
69	86	47	78	25	58	3	9
68	86	46	78	24	56	2	6
67	86	45	77	23	55	1	3
66	86	44	77	22	53	0	0

To determine the student's final examination score, find the student's total test raw score in the column labeled "Raw Score" and then locate the scale score that corresponds to that raw score. The scale score is the student's final examination score. Enter this score in the space labeled "Scale Score" on the student's answer sheet.

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

Because scale scores corresponding to raw scores in the conversion chart change from one examination to another, it is crucial that for each administration, the conversion chart provided for that administration be used to determine the student's final score. The chart above is usable only for this administration of the Regents Examination in Integrated Algebra.