The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

SPANISH EDITION
MATHEMATICS A
Wednesday, August 13, 2008
8:30 to 11:30 a.m., only

MATEMÁTICAS A

Miércoles, 13 de agosto de 2008 — 8:30 a 11:30 a.m., solamente

Escriba su nombre en letras de molde:

Escriba el nombre de su escuela en letras de molde:

Escriba su nombre y el nombre de su escuela en los recuadros de arriba en letras de molde. Después, pase a la última página de este folleto, que es la hoja de respuestas para la Parte I. Doble la última página a lo largo de las perforaciones y, lenta y cuidadosamente, desprenda la hoja de respuestas. Después rellene el encabezamiento de su hoja de respuestas.

No se permite papel de borrador para ninguna parte de este examen, pero usted puede usar los espacios en blanco en este folleto como papel de borrador. Una hoja perforada de papel de borrador cuadriculado está provista al final de este folleto para cualquier pregunta en la cual se necesite un gráfico, aunque no se requiere. Usted puede remover esta hoja del folleto. Cualquier trabajo que se realice en esta hoja de papel de borrador cuadriculado *no* será calificado. Todo el trabajo debe realizarse con bolígrafo, menos los gráficos y los dibujos, los cuales deben realizarse con lápiz.

Este examen contiene cuatro partes, con un total de 39 preguntas. Usted debe contestar todas las preguntas de este examen. Escriba sus respuestas para las preguntas de selección múltiple de la Parte I en la hoja separada de respuestas. Escriba sus respuestas a las preguntas de las Partes II, III, y IV en este mismo folleto. Indique claramente los pasos necesarios que usted seguirá, incluyendo las sustituciones apropriadas de fórmulas, diagramas, gráficos, tablas, etc.

Cuando usted haya terminado el examen, debe firmar la declaración impresa al final de la hoja de respuestas, indicando que usted no tenía ningún conocimiento ilegal de las preguntas o de las respuestas antes del examen y que no ha dado ni ha recibido ayuda en contestar ninguna de las preguntas durante el examen. Su hoja de respuestas no puede ser aceptada si usted no firma esta declaración.

Aviso. . .

Un mínimo de una calculadora científica, una regla y un compás tienen que estar disponibles para su uso mientras toma este 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

Conteste todas las preguntas en esta parte. Cada respuesta correcta recibirá 2 puntos. No se dará crédito parcial. Para cada pregunta, escriba en la hoja separada de respuestas, el número que precede a la palabra o expresión que completa mejor la afirmación o que contesta mejor a la pregunta. [60]

Utilice este espacio para sus cálculos.

1 Si $6.54 \times 10^n = 65{,}400$, ¿cuál es el valor de n?

(1) 5
(2) –5
(3) –3
(4) 4

2 ¿Qué letra tiene ambas, simetría de línea y simetría de punto?

(1) **B**
(2) **T**
(3) **S**
(4) **H**

3 Marilyn elige un trozo de dulce al azar de un frasco que contiene cuatro dulces de menta, cinco de cereza, tres de caramelo (butterscotch) y dos de limón. ¿Cuál es la probabilidad de que el dulce que ella elija *no* sea un dulce de cereza?

(1) 0
(2) $\frac{5}{14}$
(3) $\frac{9}{14}$
(4) $\frac{14}{14}$

4 La fórmula para convertir temperaturas desde grados Celsius a grados Fahrenheit es $F = \frac{9}{5}C + 32$. Si la temperatura es 20°C, ¿cuál es la temperatura en grados Fahrenheit?

(1) 68
(2) 43.1
(3) 33.8
(4) 4

Utilice este espacio para sus cálculos.

5 Andy conduce 80 millas para llegar a la autopista, conduce 100 millas en la autopista y luego conduce 75 millas adicionales después de salir de la autopista. Si el viaje completo le tomó 5 horas y no hizo ninguna parada ¿cuál fue su velocidad promedio, en millas por hora?

(1) 51
(2) 65
(3) 250
(4) 255

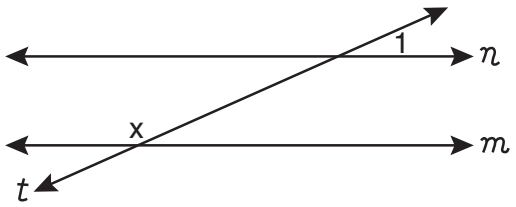
6 ¿Qué propiedad se ilustra en la ecuación $4x(2x - 1) = 8x^2 - 4x$?

(1) asociativa
(2) conmutativa
(3) distributiva
(4) identidad

7 ¿Cuál es la suma de $2m^2 + 3m - 4$ y $m^2 - 3m - 2$?

(1) $m^2 - 6$
(2) $3m^2 - 6$
(3) $3m^2 + 6m - 6$
(4) $m^2 + 6m - 2$

8 En el siguiente diagrama, la línea n es paralela a la línea m, la línea t es una transversal y $m\angle 1 = 24$.



¿A qué es igual x, en grados?

(1) 24
(2) 66
(3) 114
(4) 156

Utilice este espacio para sus cálculos.

9 Si una máquina que estampa diseños en camisetas, estampa 500 camisetas en 3 horas ¿cuántas horas le tomará el estampar diseños en 1,800 camisetas?

(1) 6
(2) 9.8
(3) 10.8
(4) 12

10 La suma de dos números negativos siempre tiene que ser

(1) negativa
(2) positiva
(3) cero
(4) un entero

11 La anchura, a, de una alfombra rectangular es 4 menos que su longitud, ℓ. ¿Qué expresión representa el área de la alfombra?

(1) $\ell(4 - \ell)$
(2) $\ell(\ell - 4)$
(3) $2(\ell - 4) + 2\ell$
(4) $2a + 2\ell$

12 ¿Cuál es el valor de m en la ecuación $2m - (m + 1) = 0$?

(1) 1
(2) –1
(3) $\frac{1}{3}$
(4) 0

13 ¿Cuál es el converso de la frase "Si $a^2 + b^2 = c^2$, entonces ΔABC es un triángulo recto"?

(1) Si ΔABC es un triángulo recto, entonces $a^2 + b^2 = c^2$.
(2) $a^2 + b^2 = c^2$ sí, y sólo sí, ΔABC es un triángulo recto.
(3) Si ΔABC no es un triángulo recto, entonces $a^2 + b^2 \neq c^2$.
(4) Si $a^2 + b^2 \neq c^2$, entonces ΔABC no es un triángulo recto.

Utilice este espacio para sus cálculos.

14 El pentágono *ABCDE* es similar al pentágono *FGHIJ*. Las longitudes de los lados de *ABCDE* son 8, 9, 10, 11, y 12. Si la longitud del lado más largo del pentágono *FGHIJ* es 18, ¿cuál es el perímetro del pentágono *FGHIJ*?

(1) 50
(2) 56
(3) 75
(4) 100

15 ¿Qué desigualdad se muestra en el siguiente gráfico?

(1) $x < -1$
(2) $x \leq -1$
(3) $x > -1$
(4) $x \geq -1$

16 Una profesora quiere dividir su clase en grupos. ¿Qué expresión representa el número de diferentes grupos de 3 personas que se puede formar de una clase de 22 estudiantes?

(1) 3!
(2) ${}_{22}C_3$
(3) ${}_{22}P_3$
(4) $22 \bullet 21 \bullet 20$

17 ¿Qué es $6x^3 + 4x^2 + 2x$ dividido por $2x$?

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

18 El mayor factor común de $4a^2b$ y $6ab^3$ es

(1) $2ab$
(2) $2ab^2$
(3) $12ab$
(4) $24a^3b^4$

Utilice este espacio para sus cálculos.

19 La afirmación "Maya juega en el equipo de básquetbol o Maya se asocia al club de esquí" es *falsa.* ¿Qué afirmación es verdadera?

(1) Maya juega en el equipo de básquetbol y Maya se asocia al club de esquí.
(2) Maya juega en el equipo de básquetbol y Maya no se asocia al club de esquí.
(3) Maya no juega en el equipo de básquetbol y Maya se asocia al club de esquí.
(4) Maya no juega en el quipo de básquetbol y Maya no se asocia al club de esquí.

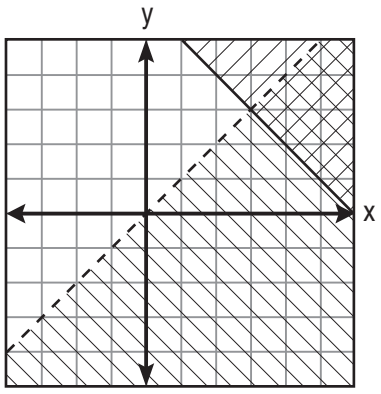
20 Las medidas de cinco de los ángulos interiores de un hexágono son 150°, 100°, 80°, 165° y 150°. ¿Cuál es la medida del sexto ángulo interior?

(1) 75°
(2) 80°
(3) 105°
(4) 180°

21 ¿Para qué valor de x es la expresión $\frac{3x - 3}{x - 5}$ indefinida?

(1) 1
(2) –1
(3) 5
(4) –5

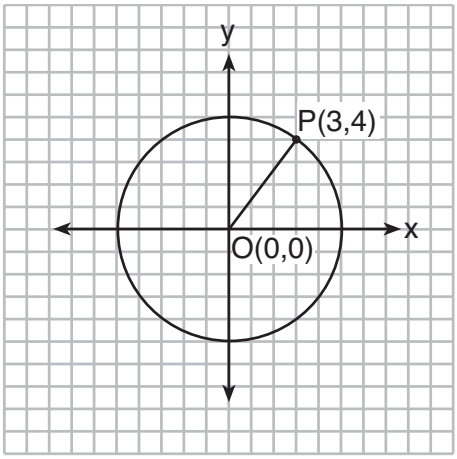
22 ¿Cuál es el punto en el conjunto solución del sistema de desigualdades que se muestra en el siguiente diagrama?



(1) (0,0)
(2) (3,3)
(3) (5,2)
(4) (2,3)

Utilice este espacio para sus cálculos.

23 En el siguiente diagrama, el centro del círculo O es (0,0) y las coordenadas del punto P son (3,4). Si $\overline{OP}$ es un radio, ¿cuál es la ecuación del círculo?



(1) $x^2 + y^2 = 5$
(2) $x^2 + y^2 = 9$
(3) $x^2 + y^2 = 16$
(4) $x^2 + y^2 = 25$

24 La expresión $(-4a^3b)^2$ es equivalente a

(1) $-16a^6b^2$
(2) $16a^6b^2$
(3) $16a^5b^2$
(4) $8a^6b^2$

25 ¿Para qué ecuación es el conjunto solución {–5,2}?

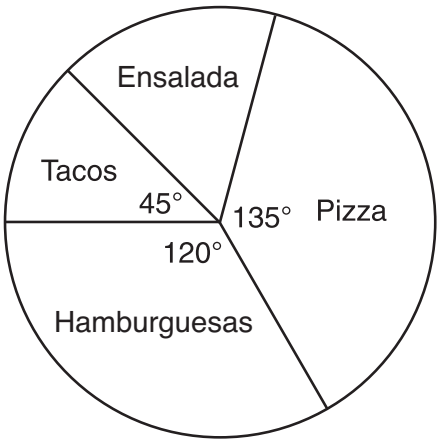
(1) $x^2 + 3x - 10 = 0$
(2) $x^2 - 3x = 10$
(3) $x^2 + 3x = -10$
(4) $x^2 - 3x + 10 = 0$

26 Cuando la familia Smith decidió construir su nueva casa, ellos encontraron que habían 60 opciones diferentes incluyendo ubicación, estilo y color. Si ellos tuvieron su opción de 2 ubicaciones y 5 estilos ¿cuántas opciones de color tuvieron?

(1) 6
(2) 12
(3) 50
(4) 53

Utilice este espacio para sus cálculos.

27 En una encuesta, a 450 estudiantes de escuela secundaria se les preguntó por su preferencia de comida rápida para el almuerzo. El siguiente gráfico circular representa los resultados.



¿Cuántos estudiantes prefirieron ensalada?

(1) 60
(2) 75
(3) 150
(4) 300

28 Una línea con una pendiente de $\frac{1}{3}$ pasa a través del punto (3,6). ¿Qué punto descansa también sobre esta línea?

(1) (6,3)
(2) (7,6)
(3) (–3,–3)
(4) (–6,3)

Utilice este espacio para sus cálculos.

29 ¿Qué afirmación es lógicamente equivalente a "Si duermo, entonces no comeré"?

(1) Si no duermo, entonces comeré.
(2) Si como, entonces no dormiré.
(3) Si como, entonces dormiré.
(4) Si no como, entonces dormiré.

30 Phil está cortando un trozo triangular de la baldosa. Si el triángulo es escaleno, ¿qué conjunto de números podría representar las longitudes de los lados?

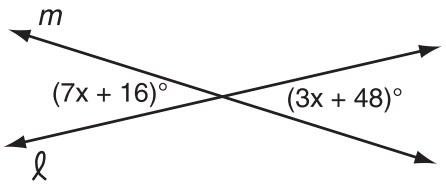
(1) {2,4,7}
(2) {4,5,6}
(3) {3,5,8}
(4) {5,5,8}

Parte II

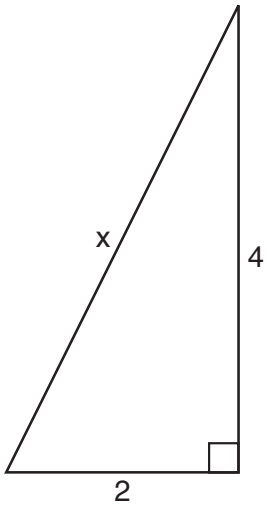
Conteste todas las preguntas en esta parte. Cada respuesta correcta recibirá 2 puntos. Indique claramente los pasos necesarios, incluyendo las sustituciones a las fórmulas apropiadas, diagramas, gráficos, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta que no demuestre el trabajo, recibirá solamente 1 punto. [10]

31 Resuelva para x: $0.35x + 0.6 = 0.1x + 1$

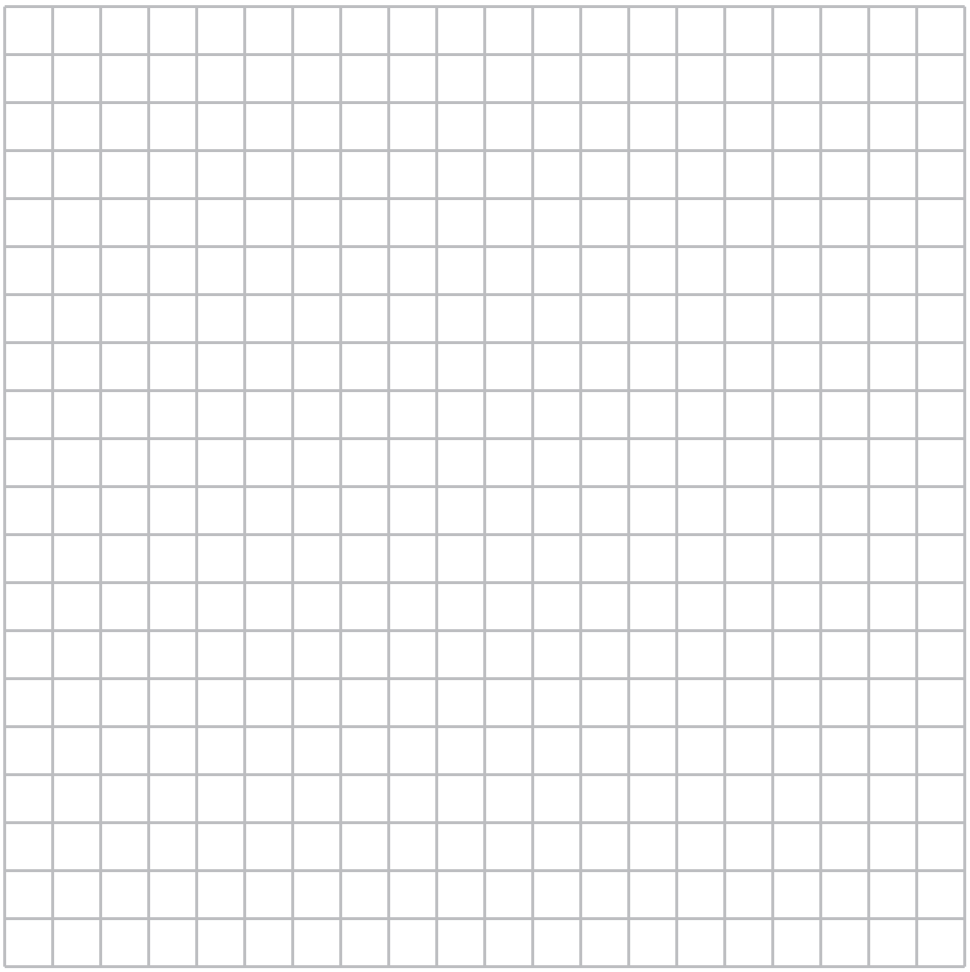
32 El siguiente diagrama muestra las líneas ℓ y m que se intersecan. Resuelva para el valor de x.



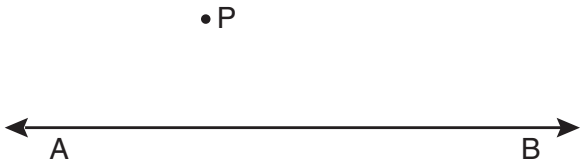
33 Theo determinó que la longitud correcta de la hipotenusa del triángulo recto en el siguiente diagrama es $\sqrt{20}$. Fiona encontró que la longitud de la hipotenusa era $2\sqrt{5}$. ¿Es correcta la respuesta de Fiona también? Justifique su respuesta.



34 Un punto externo de un segmento lineal es (6,2). El punto medio de un segmento es (2,0). Encuentre las coordenadas del otro punto externo. [El uso de la siguiente cuadrícula es opcional.]



35 Utilizando un compás y una regla, construya la línea que es perpendicular a $\overleftrightarrow{AB}$ y que pasa a través del punto P. Muestre todas las marcas de construcción.

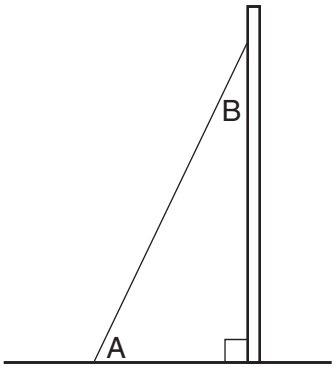


Parte III

Conteste todas las preguntas en esta parte. Cada respuesta correcta recibirá 3 puntos. Indique claramente los pasos necesarios, incluyendo las sustituciones a las fórmulas apropiadas, diagramas, gráficos, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta que no demuestre el trabajo, recibirá solamente 1 punto. [6]

36 La media de tres números es 25. El segundo número es cuatro menos que dos veces el primero. El tercer número es dos más que cuatro veces el primero. Encuentre el número *más pequeño*.

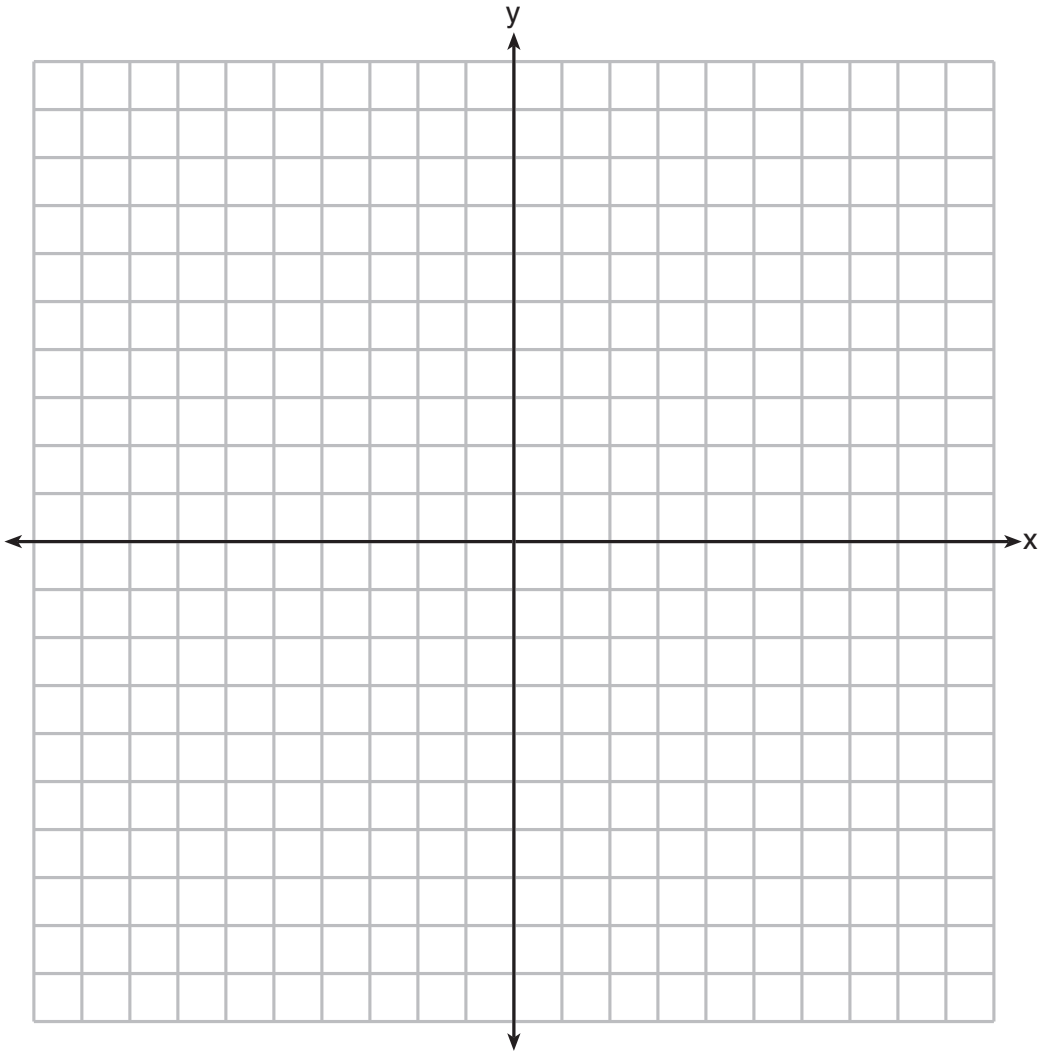
37 Una cartelera a nivel del suelo está apoyada por un puntal, como se muestra en el siguiente diagrama. La medida del ángulo *A* es 15° mayor que dos veces la medida del ángulo *B*. Determine la medida del ángulo *A* y la medida del ángulo *B*.



Parte IV

Conteste todas las preguntas en esta parte. Cada respuesta correcta recibirá 4 puntos. Indique claramente los pasos necesarios, incluyendo las sustituciones a las fórmulas apropiadas, diagramas, gráficos, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta que no demuestre el trabajo, recibirá solamente 1 punto. [8]

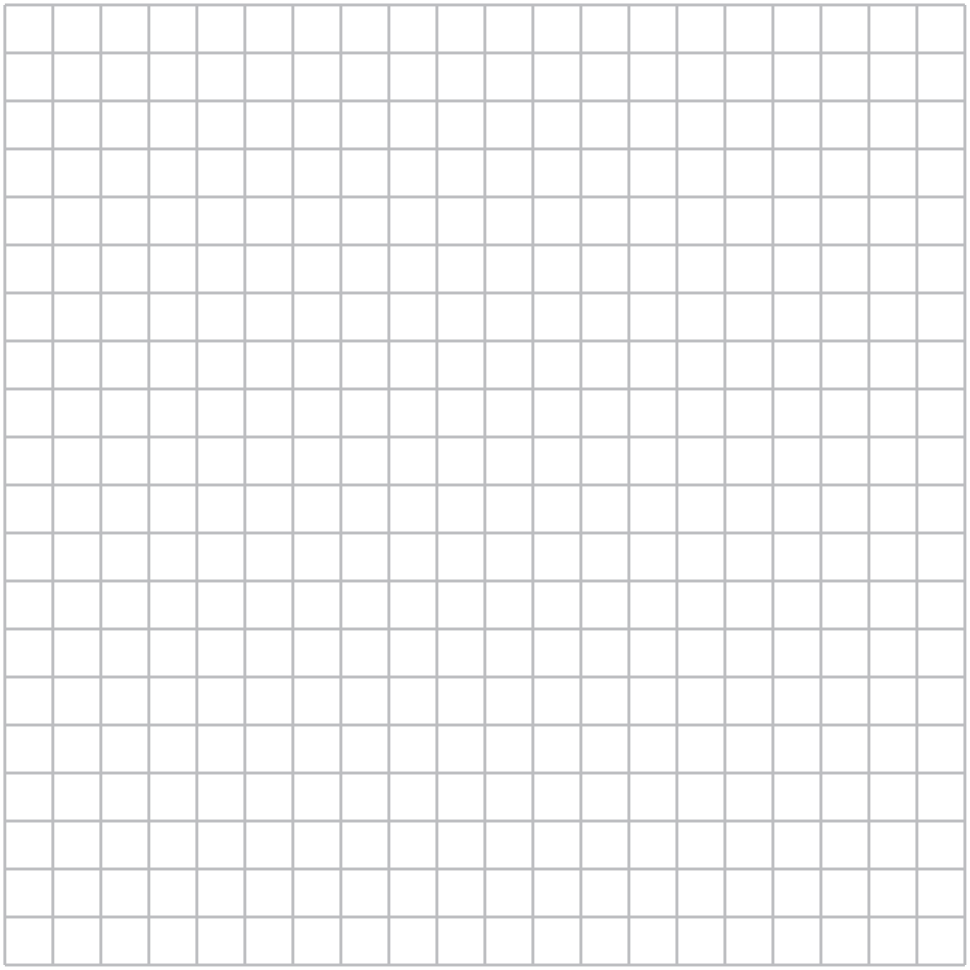
38 En el siguiente conjunto de ejes, dibuje el ΔABC, cuyas coordenadas son $A(-7,9)$, $B(-2,8)$ y $C(-3,4)$. Luego dibuje, marque y enuncie las coordenadas del $\Delta A'B'C'$, la imagen del ΔABC después de la transformación que traza (x,y) a $(-x,-y)$. Basándose en su diagrama, identifique el tipo de transformación que fue realizada.



39 Resuelva el siguiente sistema de ecuaciones algebraica o gráficamente para x e y:

$$y = x^2 + 4x + 6$$
$$y = 2x + 6$$

Continuación de la pregunta 39

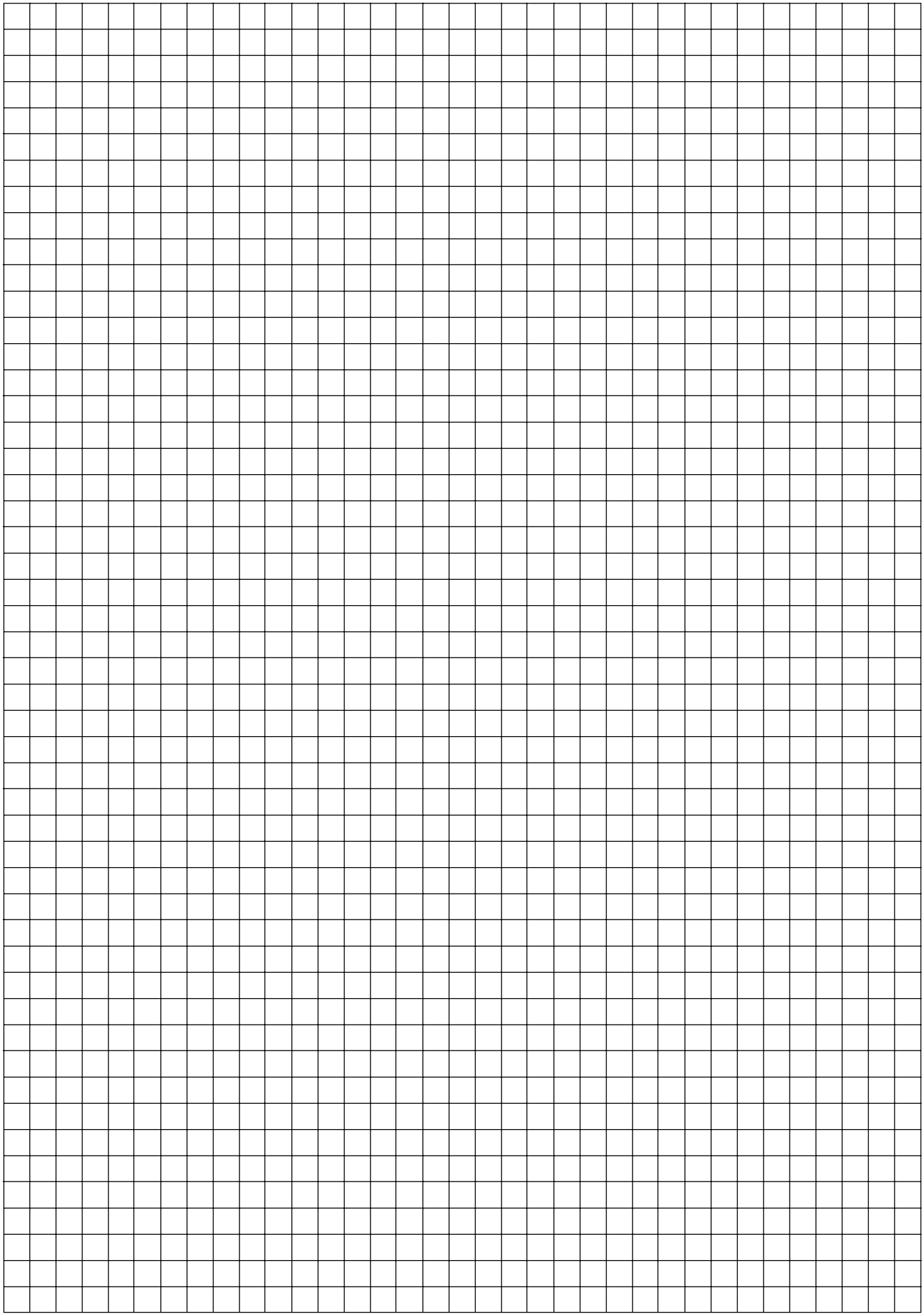


Desprender por la línea perforada

Desprender por la línea perforada

Papel borrrador cuadriculado — Esta hoja *no* será calificada.

Papel borrrador cuadriculado — Esta hoja *no* será calificada.



Desprender por la línea perforada

Desprender por la línea perforada

Desprender por la línea perforada

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

MATEMÁTICAS A

Miércoles, 13 de agosto de 2008 — 8:30 a 11:30 a.m., solamente

HOJA DE RESPUESTAS

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

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

Sus respuestas para la Parte I debe apuntarlas en esta hoja de respuestas.

Parte I

Conteste todas 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 deben escribirse en el folleto del examen.

La declaración de abajo debe ser firmada cuando usted haya completado 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

MATHEMATICS A			
Question	**Maximum Credit**	**Credits Earned**	**Rater's/Scorer's Initials**
Part I 1–30	**60**		
Part II 31	**2**		
32	**2**		
33	**2**		
34	**2**		
35	**2**		
Part III 36	**3**		
37	**3**		
Part IV 38	**4**		
39	**4**		
Maximum Total	**84**		

Total Raw Score | **Checked by** | **Scaled Score** (from conversion chart)

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

Desprender por la línea perforada

Desprender por la línea perforada

MATHEMATICS A SPANISH EDITION

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

MATHEMATICS A

Wednesday, August 13, 2008 — 8:30 to 11:30 a.m., only

SCORING KEY

Mechanics of Rating

The following procedures are to be followed for scoring student answer papers for the Mathematics A examination. More detailed information about scoring is provided in the publication *Information Booklet for Scoring the Regents Examinations in Mathematics A and Mathematics B*.

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 scaled score by using the conversion chart that will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Wednesday, August 13, 2008. The student's scaled score should be entered in the box provided on the student's detachable answer sheet. The scaled 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) 4	(6) 3	(11) 2	(16) 2	(21) 3	(26) 1
(2) 4	(7) 2	(12) 1	(17) 2	(22) 3	(27) 2
(3) 3	(8) 4	(13) 1	(18) 1	(23) 4	(28) 4
(4) 1	(9) 3	(14) 3	(19) 4	(24) 2	(29) 2
(5) 1	(10) 1	(15) 4	(20) 1	(25) 1	(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 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 Mathematics A and Mathematics B 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 A and Mathematics B*, use their own professional judgment, confer with other mathematics teachers, and/or contact the consultants at 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]** 1.6, 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] 1.6, 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]** 8, 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 $7x + 16 + 3x + 48 = 180$.

or

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

or

[1] 8, 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]** Yes, and both answers are shown to be equivalent using either decimal approximation or simplification of radicals.

[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] Yes, but an incomplete explanation is given, such as stating that $2\sqrt{5}$ and $\sqrt{20}$ are equivalent or that $\sqrt{20}$ simplifies to $2\sqrt{5}$, but no work is shown to support this.

[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.

(34) **[2]** (–2,–2), and appropriate work is shown, such as the use of the midpoint formula, a correct graph of the line segment showing the slope, or an appropriate explanation of how the missing endpoint is found.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as finding (4,1), the midpoint of the given points.

or

[1] A correct graph of the line segment is drawn, but the coordinates are not stated.

or

[1] (–2,–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.

(35) **[2]** A correct construction is drawn, showing all necessary arcs.

[1] All of the construction arcs are drawn, but the perpendicular line is not drawn.

or

[1] A line perpendicular to $\overleftrightarrow{AB}$ is constructed correctly, but it does not pass through point *P*.

[0] A drawing that is not an appropriate construction 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.

(36) **[3]** 11, and appropriate work is shown, such as solving an equation or trial and error with at least three trials and appropriate checks.

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

or

[2] Appropriate work is shown to find the three numbers, but a number other than the smallest is identified.

or

[2] The trial-and-error method is used to find the correct solution, but only two trials and appropriate checks are shown.

or

[2] One error is made in representing the three numbers algebraically, but an appropriate equation is written and solved correctly.

[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, such as not dividing $7x - 2$ by 3.

or

[1] Two errors are made in representing the three numbers algebraically, but an appropriate equation is written and solved correctly.

or

[1] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but no solution is found.

or

[1] 11, but no work or only one trial with an appropriate check 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.

(37) **[3]** $m\angle A = 65$ and $m\angle B = 25$, and appropriate work is shown.

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

or

[2] Appropriate work is shown to find 65 and 25, but the angles are not labeled or are labeled incorrectly.

or

[2] An incorrect expression is written for angle A, but an appropriate equation is solved, and appropriate measures of angle A and angle B are found.

or

[2] Appropriate work is shown to find $x = 25$, but no further correct work is shown.

[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, such as solving the equation $3x + 15 = 180$ for both the measures of angle A and angle B.

or

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

or

[1] $m\angle A = 65$ and $m\angle B = 25$, but no work is shown.

[0] $m\angle A = 65$ or $m\angle B = 25$, but no work is shown.

or

[0] 65 and 25, but no work is shown, and the angles are not labeled or are labeled incorrectly.

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

(38) **[4]** ΔABC and $\Delta A'B'C'$ are graphed and labeled correctly, and the coordinates of $\Delta A'B'C'$ are stated as $A'(7,-9)$, $B'(2,-8)$, and $C'(3,-4)$, and point reflection or dilation with a factor of -1. (Note: rotation or rotation of 180° is an acceptable answer.)

[3] ΔABC and $\Delta A'B'C'$ are graphed and labeled correctly, but the coordinates of $\Delta A'B'C'$are not stated or are stated incorrectly, but a correct transformation is stated.

or

[3] ΔABC and $\Delta A'B'C'$ are graphed and labeled correctly, and the coordinates of $\Delta A'B'C'$ are stated correctly, but the type of transformation is not stated or is stated incorrectly.

or

[3] ΔABC is not graphed, but $\Delta A'B'C'$ is graphed and labeled correctly, and its coordinates are stated correctly, and a correct transformation is stated.

or

[3] ΔABC is graphed incorrectly, but $\Delta A'B'C'$ is graphed and labeled appropriately, its coordinates are stated appropriately, and an appropriate type of transformation is stated.

[2] ΔABC is graphed correctly, but one conceptual error is made, such as graphing an incorrect transformation, but the points are labeled appropriately, its coordinates are stated appropriately, and an appropriate type of transformation is stated.

or

[2] ΔABC is not graphed, but $\Delta A'B'C'$ is graphed and labeled correctly, and its coordinates are stated correctly, but the type of transformation is not stated or is stated incorrectly.

or

[2] ΔABC and $\Delta A'B'C'$ are graphed and labeled correctly, but the coordinates of $\Delta A'B'C'$ and the type of transformation are not stated or are stated incorrectly.

or

[2] ΔABC and $\Delta A'B'C'$ are not graphed, but the correct coordinates of $\Delta A'B'C'$ and a correct transformation are stated.

[1] Either ΔABC or $\Delta A'B'C'$ is graphed correctly, but the coordinates of $\Delta A'B'C'$ and the type of transformation are not stated or are stated incorrectly.

or

[1] $A'(7,-9)$, $B'(2,-8)$, and $C'(3,-4)$, but no further correct work is shown.

or

[1] A correct transformation is stated, but no work is shown.

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

(39) **[4]** (–2,2) and (0,6), and appropriate algebraic or graphic work is shown.

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

or

[3] Appropriate algebraic work is shown, but only one solution is found correctly or only the x-values or the y-values are found correctly.

or

[3] Both equations are graphed correctly showing two points of intersection, but the coordinates are not stated or are stated incorrectly.

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

or

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

or

[2] The equation $y = x^2 + 4x + 6$ is graphed correctly, but no further correct work is shown.

or

[2] (–2,2) and (0,6), but a method other than an algebraic or graphic solution is used, such as trial and error with at least three trials and appropriate checks.

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

or

[1] The system of equations is simplified to a single equation, but no further correct work is shown.

or

[1] The equation $y = 2x + 6$ is graphed correctly, but no further correct work is shown.

or

[1] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but the solutions are not found.

or

[1] (–2,2) and (0,6), but no algebraic or graphic work is shown or the trial-and-error method is used and fewer than three trials and appropriate checks are shown.

[0] (–2,2) or (0,6), but no algebraic or graphic work is shown or the trial-and-error method is used and fewer than three trials and appropriate checks are 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 Learning Standards

Key Ideas	Item Numbers
Mathematical Reasoning	13, 19, 29
Number and Numeration	6, 21, 33
Operations	1, 2, 4, 7, 10, 17, 18, 24
Modeling/Multiple Representation	8, 20, 30, 32, 35, 37, 38
Measurement	5, 9, 11, 14, 27, 28, 34, 36
Uncertainty	3, 16, 26
Patterns/Functions	12, 15, 22, 23, 25, 31, 39

Regents Examination in Mathematics A

August 2008

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

The *Chart for Determining the Final Examination Score for the August 2008 Regents Examination in Mathematics A* will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Wednesday, August 13, 2008. Conversion charts provided for previous administrations of the Mathematics A 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 Mathematics A
August 2008

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
84	100	55	80	27	55
83	99	54	79	26	54
82	99	53	78	25	53
81	98	52	78	24	51
80	97	51	77	23	50
79	97	50	76	22	49
78	96	49	76	21	47
77	95	48	75	20	46
76	95	47	74	19	44
75	94	46	74	18	42
74	93	45	73	17	41
73	92	44	72	16	39
72	92	43	71	15	37
71	91	42	71	14	35
70	90	41	70	13	34
69	89	40	69	12	32
68	88	39	68	11	30
67	88	38	67	10	27
66	87	37	66	9	25
65	86	36	65	8	23
64	86	35	64	7	21
63	85	34	63	6	18
62	84	33	62	5	16
61	83	32	61	4	13
60	83	31	60	3	10
59	82	30	59	2	7
58	82	29	58	1	4
57	81	28	56	0	0
56	80				

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 Mathematics A.