SPANISH EDITION
MATHEMATICS A
TUESDAY, JUNE 17, 2003
1:15 to 4:15 p.m., only

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

MATEMÁTICAS A

Martes, 17 de junio, 2003 – de 1:15 a 4:15 p.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 para la cual sea útil una gráfica aunque no se requiere. Cualquier trabajo que se realice en esta hoja de papel de borrador cuadriculado *no* será calificado. Todo el trabajo debe realizarse con bolígrafo, menos las gráficas y los dibujos, los cuales deben realizarse con lápiz.

Este examen contiene cuatro partes, con un total de 35 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 apropiadas de fórmulas, diagramas, gráficas, 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 usted no ha dado ni ha recibido ayuda para 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 que se examina.

NO ABRA ESTE FOLLETO DE EXAMEN HASTA QUE SE DÉ LA SEÑAL.

Parte I

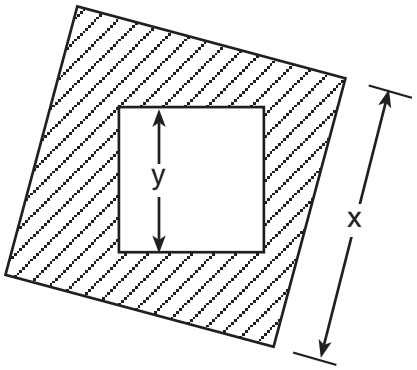
Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 2 puntos. No se permitirá crédito parcial. Apunte sus respuestas en los espacios provistos en la hoja separada de respuestas. [40]

Utilice este espacio para cálculos.

1 El número 8.375×10^{-3} es equivalente a

(1) 0.0008375
(2) 0.008375
(3) 0.08375
(4) 8,375

2 El diagrama siguiente demuestra un cuadrado con una longitud *y* dentro de un cuadrado con una longitud *x*.



¿Cuál expresión representa el área de la región sombreada?

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

3 ¿Cuál expresión representa un número irracional?

(1) $\sqrt{2}$
(2) $\frac{1}{2}$
(3) 0.17
(4) 0

4 ¿Cuál forma *no* tiene simetría rotacional?

(1) trapezoide
(2) pentágono regular
(3) círculo
(4) cuadrado

5 Bob y Laquisha han ofrecidos sus servicios voluntariamente para servir en el comité del "Junior Prom". Los nombres de veinte voluntarios, incluyendo a Bob y Laquisha, han sido puesto en una escudilla. Si dos nombres son selecionados al azar de la escudilla sin ser reemplazados, ¿cuál es la posibilidad de que el nombre de Bob sea selecionado primero y el nombre de Laquisha sea selecioando segundo?

Utilice este espacio para cálculos.

(1) $\frac{1}{20} \bullet \frac{1}{20}$

(2) $\frac{1}{20} \bullet \frac{1}{19}$

(3) $\frac{2}{20}$

(4) $\frac{2}{20!}$

6 Tori computa el valor de 8×95 en su cabeza, pensando que $8(100 - 5) = 8 \times 100 - 8 \times 5$. ¿Qué propiedad numérica ella esta usando?

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

7 Un triángulo tiene lados de longitud de 5, 12, y 13. Un triángulo similar puede tener lados de longitud de

(1) 3, 4, y 5
(2) 6, 8, y 10
(3) 7, 24, y 25
(4) 10, 24, y 26

8 ¿Cuál afirmación es lógicamente equivalente a "Si es sábado, entonces yo no estoy en la escuela"?

(1) Si no estoy en la escuela, entonces es sábado.
(2) Si no es sábado, entonces estoy en la escuela.
(3) Si estoy en la escuela, entonces no es sábado.
(4) Si es sábado, entonces estoy en la escuela.

9 Una traslación mueve $P(3,5)$ a $P'(6,1)$. ¿Cuáles son las coordenadas del punto de imágen $(-3,-5)$ bajo la misma traslación?

(1) $(0,-9)$
(2) $(-5,-3)$
(3) $(-6,-1)$
(4) $(-6,-9)$

Utilice este espacio para cálculos.

10 Si $x + y = 9x + y$, entonces x es igual a

(1) y (3) 0

(2) $\frac{1}{5}y$ (4) 8

11 ¿Que número está en el conjunto de soluciones de la desigualdad de $5x + 3 > 38$?

(1) 5 (3) 7
(2) 6 (4) 8

12 La expresión $3^2 \bullet 3^3 \bullet 3^4$ es equivalente a

(1) 27^9 (3) 3^9
(2) 27^{24} (4) 3^{24}

13 ¿Cuál es el conjunto de soluciones de la ecuación $x^2 - 5x - 24 = 0$?

(1) {–3,8} (3) {3,8}
(2) {–3,–8} (4) {3,–8}

14 Si se evaluara la expresión $3 - 4^2 + \frac{6}{2}$, ¿qué debe hacerse *último*?

(1) restar (3) sumar
(2) cuadrar (4) dividir

15 ¿Cuál es el inverso aditivo de $\frac{2}{3}$?

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

16 La suma de $\sqrt{18}$ y $\sqrt{72}$ es

Utilice este espacio para cálculos.

(1) $\sqrt{90}$

(2) $9\sqrt{2}$

(3) $3\sqrt{10}$

(4) $6\sqrt{3}$

17 ¿Cual es el inverso de la proposición "Si Julie trabaja duro, entonces ella tiene éxito"?

(1) Si Julie tiene éxito, entonces ella trabaja duro.
(2) Si Julie no tiene éxito, entonces ella no trabaja duro.
(3) Si Julie trabaja duro, entonces ella no tiene éxito.
(4) Si Julie no trabaja duro, entonces ella no tiene éxito.

18 ¿Si un factor de $56x^4y^3 - 42x^2y^6$ es $14x^2y^3$, cuál es el otro factor?

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

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

(3) $4x^2y - 3xy^3$

(4) $4x^2y - 3xy^2$

19 ¿Para cuál valor de x es la expresión $\frac{3x-6}{x-4}$ *no* definida?

(1) 0

(2) 2

(3) –4

(4) 4

20 ¿Cuántos equipos diferentes de cinco-miembros pueden hacerse de un grupo de ocho estudiantes, si cada estudiante tiene una oportunidad de igualdad de ser elegidos?

(1) 40

(2) 56

(3) 336

(4) 6,720

Parte II

Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 2 puntos. Indique claramente los pasos necesarios, incluyendo las sustituciones apropiadas de fórmulas, diagramas, gráficas, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta sin mostrar el trabajo necesario sólo recibirá 1 punto. [10]

21 Los resultados del exámen de los estudiantes de la clase de matemática de la Sra. Frederick se muestran en la gráfica de tallo y hoja siguiente.

4	3
6	0 5 5 7 9
7	2 5 6 8 9 9 9
9	0 1 2 5 9

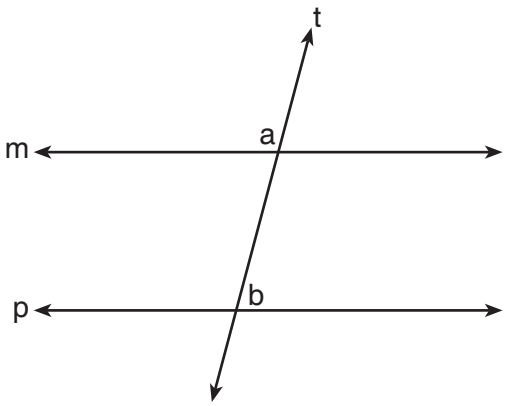
Clave: 4 | 3 = 43 puntos

Encuentre la mediana de estos resultados.

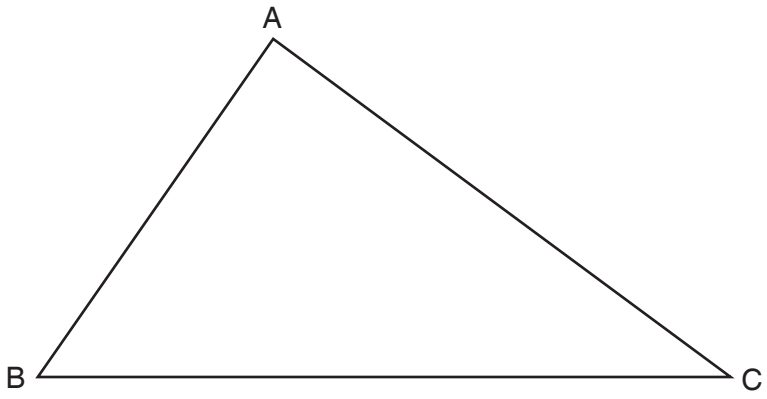
22 La longitud de los lados de dos carteleras rectangulares similares están en la razón de 5:4. Si 250 pies al cuadrado de material se necesitan para cubrir la cartelera más grande, ¿cuanto material, en pies cuadrado, se necesitará para cubrir la cartelera más pequeña?

23 Solucione para m: $0.6m + 3 = 2m + 0.2$

24 En el diagrama siguiente, la línea m es paralela a la línea p, la linea t es tranversal, $m\angle a = 3x + 12$, y $m\angle b = 2x + 13$. Encuentre el valor de x.



25 En el diagrama siguiente del ΔABC, use un compás y una regla para construir una mediana desde A a $\overline{BC}$.



[8]

Parte III

Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 3 puntos. Indique claramente los pasos necesarios, incluso sustituciones apropiadas de fórmulas, diagramas, gráficas, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta sin el trabajo necesario demostrado sólo recibirá 1 punto. [15]

26 Seth tiene uno menos que el doble de discos compactos (CDs) de los que tiene Jason. Raoul tiene 53 más CDs que los que tiene Jason. Si Seth le da a Jason 25 CDs, Seth y Jason tendrán el mismo número de CDs. ¿Cuántos CDs tenían *cada uno* de los muchachos al comienzo?

27 El aula preescolar de Tina, tiene una colección de bloques de construcción de cartón, cada uno mide 9 pulgadas por 9 pulgadas por 4 pulgadas. ¿Cuántos bloques necesitará Tina para construir una pared de 4 pulgadas de grueso por 3 pies de alto por 12 pies de longitud?

28 En unas eleciones del pueblo, los candidatos *A* y *B* estaban compitiendo para alcalde. Habían 30,500 personas elegíbles para votar, y $\frac{3}{4}$ de ellos, actualmente votaron. El candidato B recibió $\frac{1}{3}$ de los votos emitidos. ¿Cuántas personas votaron por el candidato *B*? ¿Qué porcentaje de los votos emitidos, *al décimo mas cercano de un porciento*, recibió el candidato *A*?

29 Cierto Estado está considerando cambiar la orden de letras y números de sus placas. El Estado está considerando dos opciones:

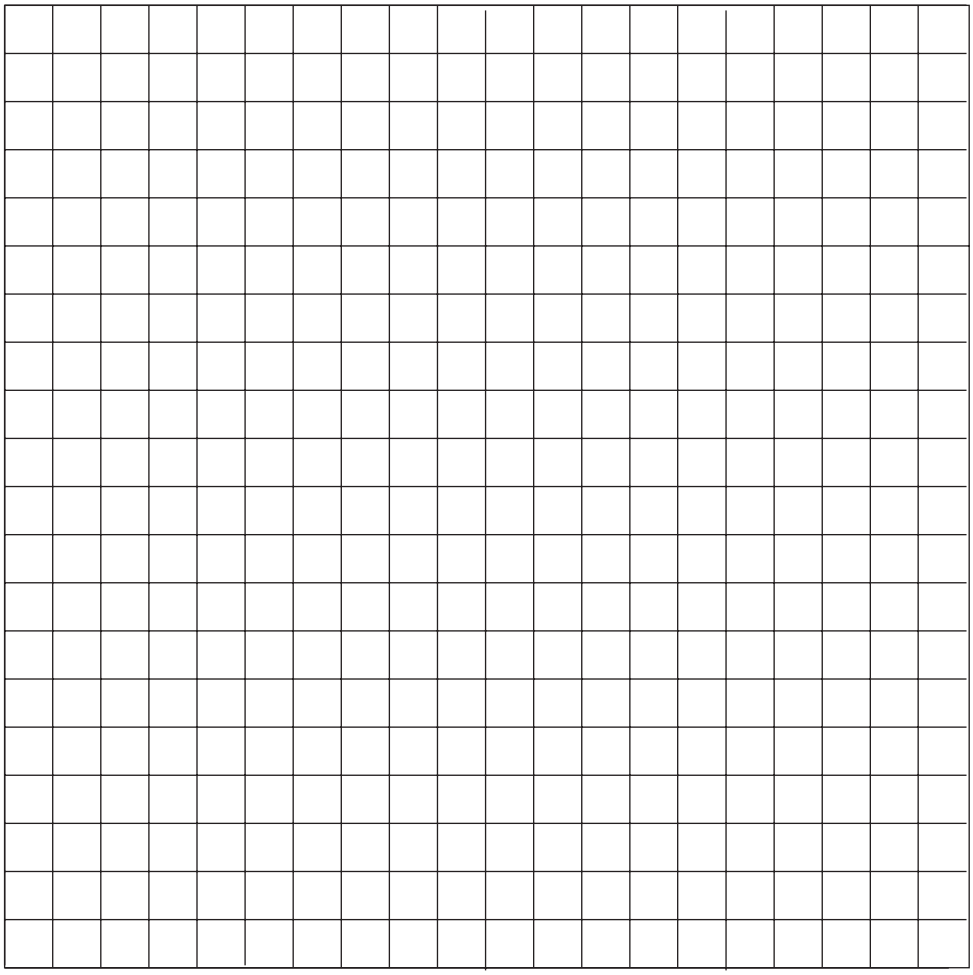
Opción 1: tres letras seguidas por un número de cuatro dígitos con repetición de ambas letras y dígitos, si es permitido

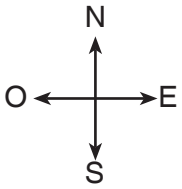
Opción 2: cuatro letras seguidas por un número de tres dígitos sin la repetición de ninguna de las letras o dígitos.

[El zero puede ser escogido como el primer dígito del número en cualquier opción.]

¿Cuál opción, le permitirá al Estado a suministrar más placas? ¿Cuántos tipos *más* de placas diferentes, esa opción le brindará?

30 Para ir de su escuela superior a su casa, José viaja 5.0 millas hacia el este y luego 4.0 millas hacia el norte. Cuando Sheila va a su casa desde la misma escuela superior, ella viaja 8.0 millas hacia el este y 2.0 millas hacia el sur. ¿Cuál es la cantidad de la distancia más corta, a la *décima más cercana de una milla*, entre la casa de José y la casa de Sheila? [El uso del cuadriculado acompañante es optativo.]

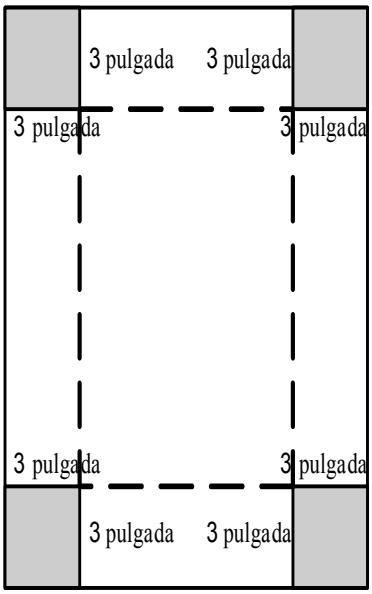




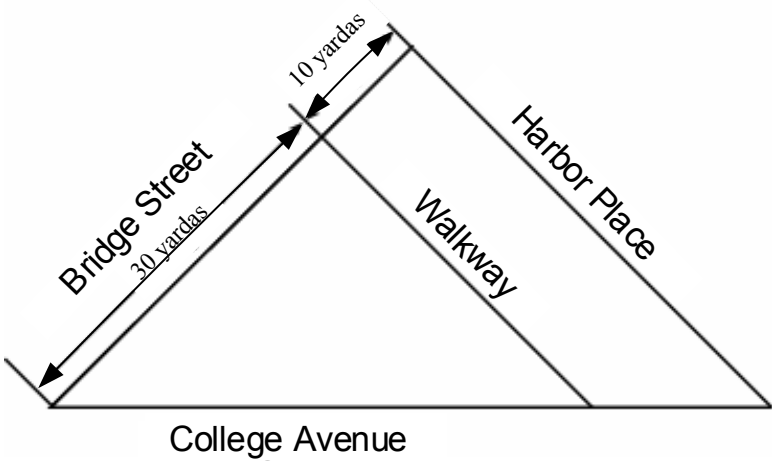
Parte IV

Conteste todas las preguntas de esta parte. Cada respuesta correcta recibirá 4 puntos. Indique claramente los pasos necesarios, incluyendo sustituciones apropiadas de fórmulas, diagramas, gráficas, tablas, etc. Para todas las preguntas de esta parte, una respuesta numérica correcta sin mostrar el trabajo sólo recibirá 1 punto. [20]

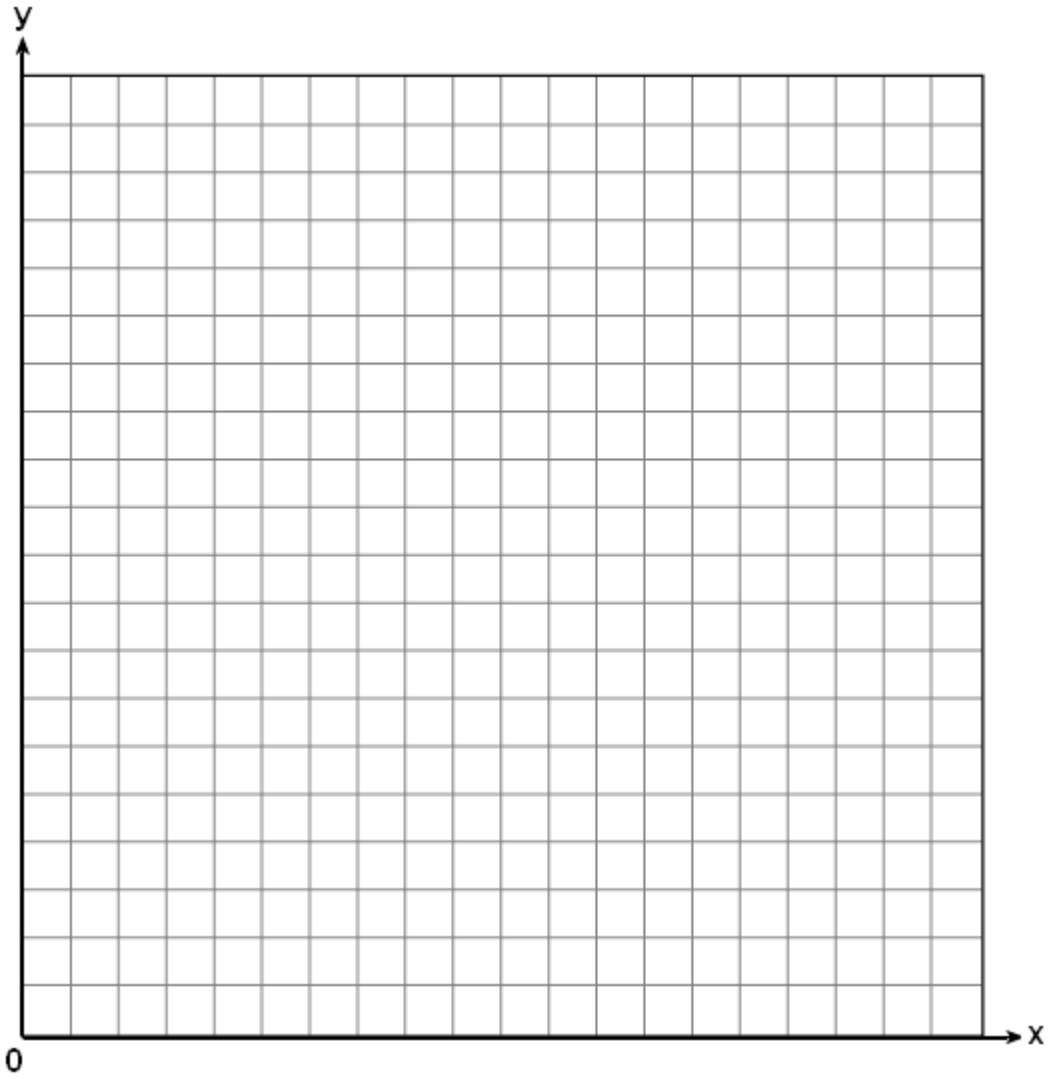
31 Deborah construyó una caja cortando 3 pulgadas al cuadrado de las esquinas de un pedazo de cartón rectangular, demostrado en el diagrama siguiente, luego dobló los lados hacia arriba. El volumen de la caja es de 150 pulgadas cúbicas, el lado largo de la caja es de 5 pulgadas más que la del lado corto. Encuentre el número de pulgadas del lado corto del pedazo del cartón *original.*



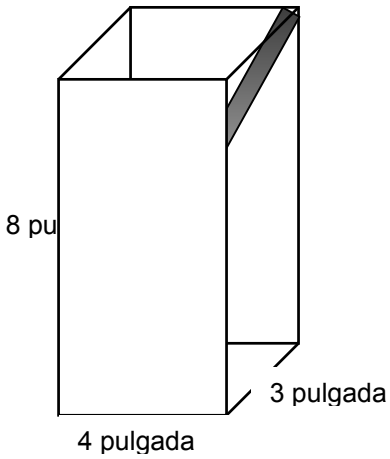
32 Un parque triangular esta formado por la intersección de tres calles, Bridge Street, Harbor Place, y College Avenue, como está demostrado en el diagrama. Un puente paralelo a Harbor Place atraviesa por el parque. Una cápsula de tiempo, ha sido enterrada en el parque en una localización que es equidistante de Bridge Street y College Avenue y a 5 yardas del puente. Indique en el diagrama con una **X** *cada* posible localización, donde pueda estar enterrada la cápsula de tiempo.



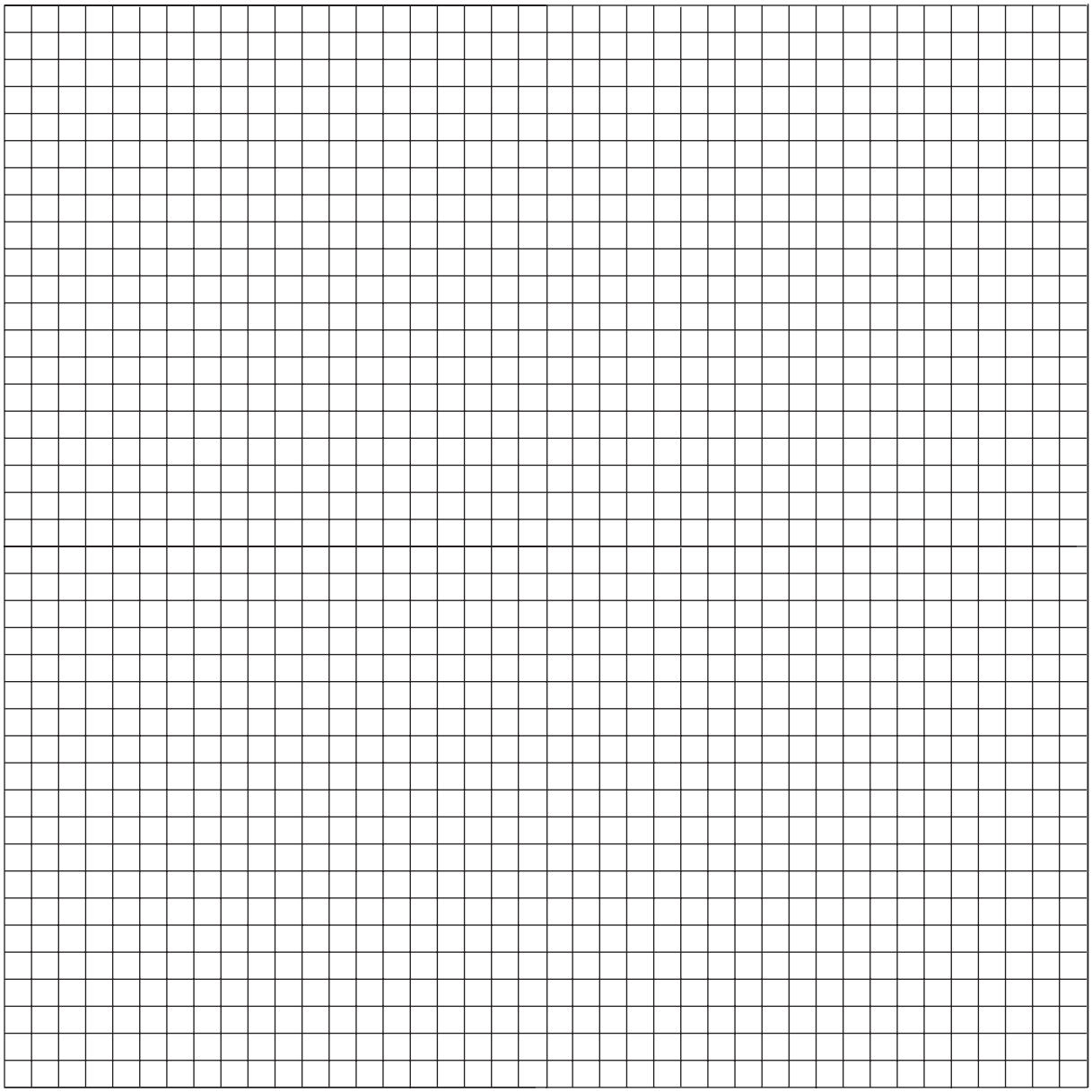
33 Un arquitecto está diseñando la entrada de un museo con el estílo de un arco parabólico representado por la ecuación $y = -x^2 + 20x$, donde $0 \leq x \leq 20$ y todas la dimensiones están representadas por pies. En el eje de coordenadas siguientes, dibuja una gráfica del arco y determina la altura máxima, en pies.



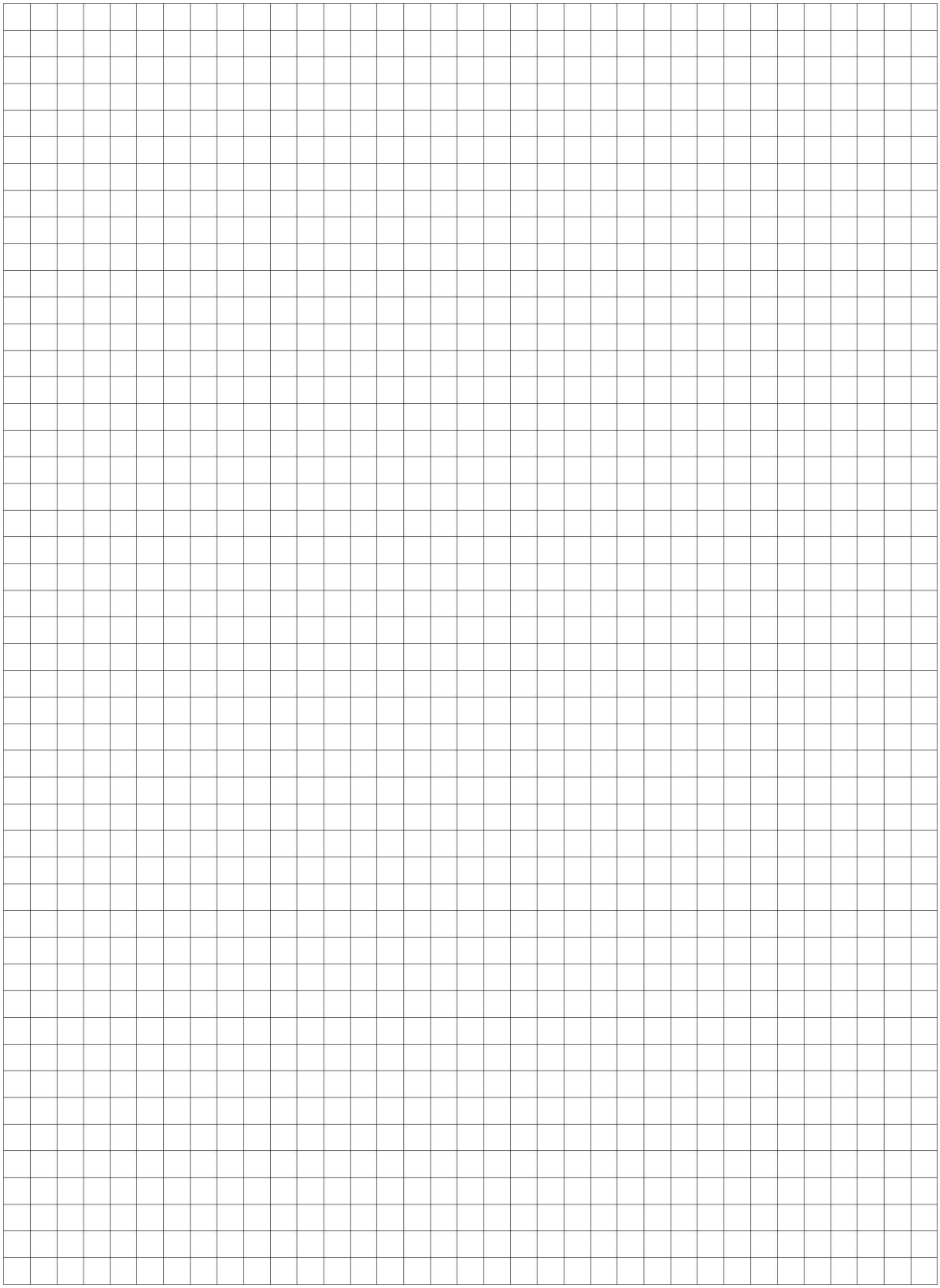
34 Un sorbeto (paja) esta localizado en una caja rectangular de 3 pulgadas por 4 pulgadas por 8 pulgadas, como está demostrado en el diagrama siguiente. Si el sorbeto cabe exactamente en la caja en forma diagonal, desde la esquina izquierda del fondo del frente hasta la esquina de la parte de arriba de la caja, ¿Cuál es el largo del sorbeto, *a la décima mas cercana de una pulgada?*



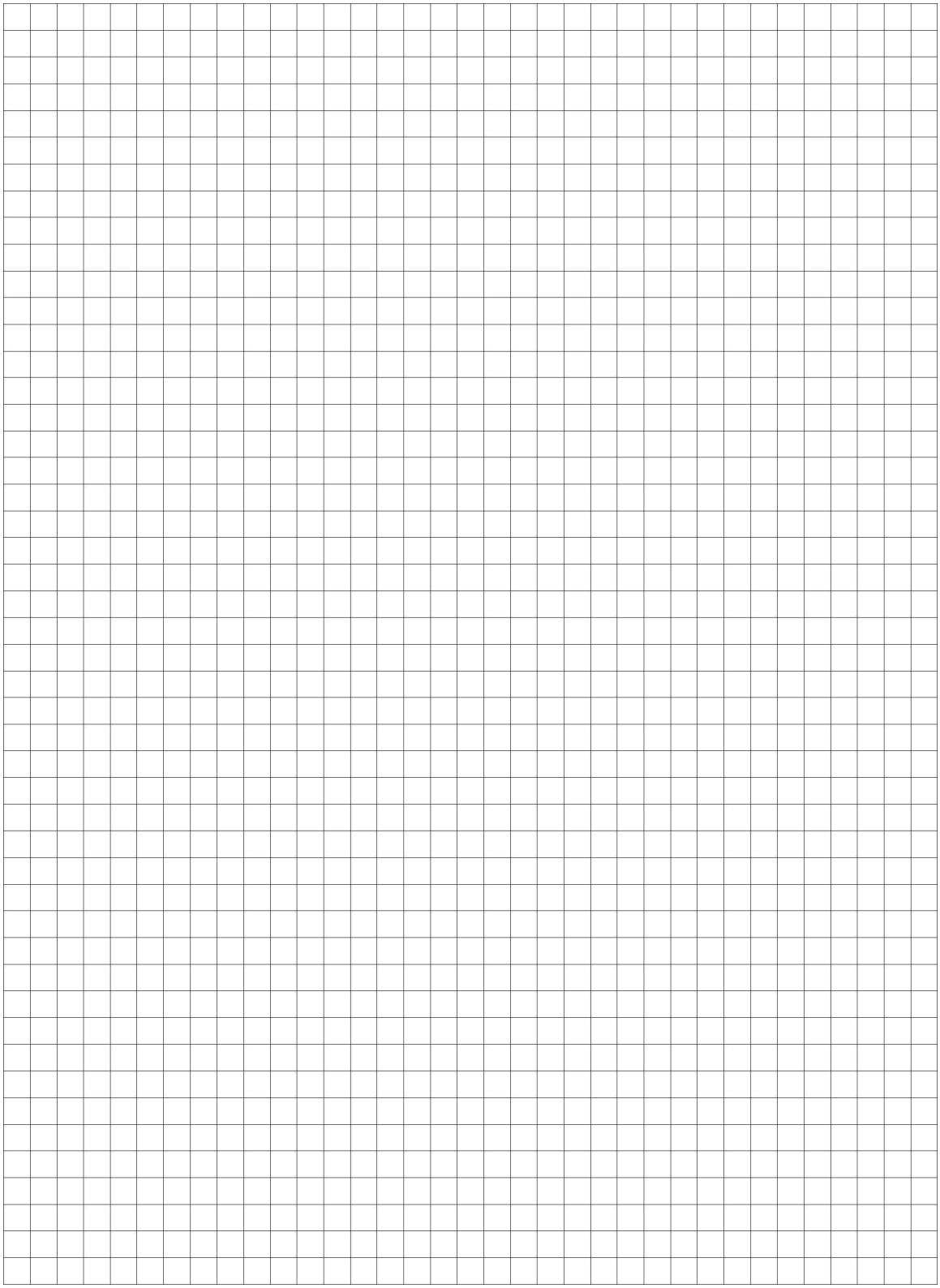
35 La clase de cuarto año va a celebrar un baile. El costo de un "disk jockey" estudiantil es $40 y las entradas valen $2 cada una. Escriba una ecuación linear y, en el cuadriculado acompañante, haga una gráfica para representar la relación entre el número de entradas que se han vendido y la ganacia que se obtendrá del baile. Luego encuentre cuántas entradas deberán venderse para salir mano a mano (para no ganar y no perder).



Papel Borrador Cuadriculado – Esta hoja no será calificada.



Papel Borrador Cuadriculado – Esta hoja no será calificada.



The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

MATEMÁTICAS A

Martes, 17 de junio, 2003 – de 1:15 a 4:15 p.m., solamente

HOJA DE RESPUESTAS

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

Maestro . . . . . Escuela . . . . . .

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

Parte I

Conteste todas las 20 preguntas de esta parte.

1	6	11	16 . . . . .
2	7	12.	17 . . . . .
3	8	13	18 . . . . .
4	9	14	19 . . . . .
5	10	15	20 . . . . .

Sus respuestas para las Partes II, III, y IV deben escribirse en el folleto del examen.

La declaración abajo debe ser firmada cuando usted haya completado el examen.

Por la presente afirmo, al terminarse este examen, que no tenía ningún conocimiento ilegal de las preguntas o de las respuestas antes del examen y que no he dado ni he recibido ayuda en contestar ninguna de las preguntas durante el examen.

Firma

MATHEMATICS A			
Question	Maximum Credit	Credits Earned	Rater's/Scorer's Initials
Part I 1-20	40		
Part II 21	2		
22	2		
23	2		
24	2		
25	2		
Part III 26	3		
27	3		
28	3		
29	3		
30	3		
Part IV 31	4		
32	4		
33	4		
34	4		
35	4		
Maximum Total	85		

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

	Total Raw Score	Checked by	Scaled Score

Notes to raters….

- **Each paper should be scored by a minimum of three raters.**
- **The table for converting the total raw score to the scaled score is provided in the scoring key for this examination.**
- **The scaled score is the student's final examination score.**

FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

MATHEMATICS A

Tuesday, June 17, 2003 — 1:15 to 4:15 p.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 Administering and 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 checkmarks 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 printed at the end of this key. 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 40 credits, 2 credits for each of the following. Allow credit if the student has written the correct answer instead of the numeral 1, 2, 3, or 4.

(1) 2	(6) 2	(11) 4	(16) 2
(2) 4	(7) 4	(12) 3	(17) 4
(3) 1	(8) 3	(13) 1	(18) 1
(4) 1	(9) 1	(14) 1 and 3	(19) 4
(5) 2	(10) 3	(15) 1	(20) 2

Part II

For each question, use the specific criteria to award a maximum of two credits.

(21) **[2]** 77, and appropriate work is shown, such as (76 + 78) ÷ 2.

[1] 76 and 78 are identified.

or

[1] 77, 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.

(22) **[2]** 160, and appropriate work is shown, such as the proportion $\frac{25}{16} = \frac{250}{x}$.

[1] Appropriate work is shown, but one computational error or one conceptual error is made, such as $\frac{5}{4} = \frac{250}{x}$.

or

[1] 160, 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.

(23) **[2]** 2, and appropriate work is shown.

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

or

[1] 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.

(24) **[2]** 31, and appropriate work is shown, such as $5x + 25 = 180$.

[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 setting the given angles equal to each other.

or

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

or

[1] 31, 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.

(25) **[2]** A correct construction is drawn to find the midpoint of $\overline{BC}$, showing both sets of arcs and a line connecting A with the midpoint.

[1] A correct construction is drawn to find the midpoint of $\overline{BC}$, but the median is not drawn.

or

[1] The construction is appropriate, but a compass and a straightedge are not used.

[0] No construction arcs 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.

Part III

For each question, use the specific criteria to award a maximum of three credits.

(26) **[3]** Seth had 101, Jason had 51, and Raoul had 104, and appropriate work is shown, such as $x + 25 = (2x - 1) - 25$ 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] 101, 51, and 104, and appropriate work is shown, but the solutions are not labeled or are labeled incorrectly.

or

[2] A correct equation is solved, but the number of CDs for only one boy is found.

or

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

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

or

[1] Appropriate work is shown, but one conceptual error is made, but an appropriate number of CDs is found for each boy.

or

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

or

[1] Seth had 101, Jason had 51, and Raoul had 104, but no work or only one trial with an appropriate check is shown.

[0] Seth had 101 *or* Jason had 51 *or* Raoul had 104, but no work is shown.

or

[0] 101, 51, and 104, but no work is shown and the solutions 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.

(27) **[3]** 64, and appropriate work is shown, such as calculating $\frac{(36 \times 144)}{(9 \times 9)}$ or drawing a labeled diagram.

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

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

or

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

or

[1] 64, 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.

(28) **[3]** 7,625 and 66.7%, and appropriate work is shown.

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

or

[2] Only the number of votes for candidate *B* is found correctly, but appropriate work is shown.

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

or

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

or

[1] The percent of votes cast for candidate *A* is found correctly, but no further correct work is shown.

or

[1] 7,625 and 66.7%, but no work is shown.

[0] 7,625 *or* 66.7%, 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.

(29) **[3]** Option 2 will yield 82,576,000 more possibilities, and appropriate work is shown, such as $26^3 \bullet 10^4$ and ${}_{26}P_4 \bullet {}_{10}P_3$.

[2] Appropriate work is shown, but one computational error is made, but the appropriate option is identified.

or

[2] The correct numbers of arrangements are found for both Option 1 and Option 2, but the question of which option will yield more arrangements is not answered or is answered incorrectly.

[1] Appropriate work is shown, but more than one computational error is made, but the appropriate option is identified.

or

[1] Appropriate work is shown, but one conceptual error is made, but the appropriate option is identified.

or

[1] Either Option 1 or Option 2 is found correctly, but no further correct work is shown.

or

[1] Option 2 will yield 82,576,000 more possibilities, but no work is shown.

[0] Option 2, but no work or inappropriate 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.

(30) **[3]** 6.7, and appropriate work is shown, such as using the distance formula.

[2] Appropriate work is shown, but one computational or rounding or graphing error is made or the answer is left in radical form.

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

or

[1] Only an appropriate diagram or graph is shown.

or

[1] The horizontal distance is determined to be 3, and the vertical distance is determined to be 6, but the shortest distance is not found.

or

[1] 6.7, but no work is shown.

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

Part IV

For each question, use the specific criteria to award a maximum of four credits.

(31) **[4]** 11, and appropriate work is shown, such as solving the quadratic equation $3x(x + 5) = 150$ or trial and error with at least three trials and appropriate checks.

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

or

[3] Appropriate work is shown to determine that 5 is the shorter side of the box, but the shorter side of the original sheet is not found or is found incorrectly.

or

[3] An incorrect quadratic equation of equal difficulty is solved appropriately, and an appropriate shorter side of the original sheet is found.

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

or

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

or

[2] An incorrect quadratic equation of equal difficulty is solved appropriately, but the shorter side of the original sheet is not found.

or

[2] A correct quadratic equation is set equal to zero, but no further correct work is shown.

or

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

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

or

[1] One conceptual error is made in finding the shorter side of the box, and the corresponding shorter side of the original sheet is not found or is found incorrectly.

(31) continued

or

[1] A correct quadratic equation is written, but it is not set equal to zero, and no further correct work is shown.

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.

(32) **[4]** Two **X**s are indicated at the intersections of the angle bisector and the parallel lines in the correct sketch of the loci.

[3] All loci are drawn correctly, but no **X**s are drawn to indicate the locations, or only one **X** is drawn.

or

[3] The angle bisector is drawn correctly, but only one line is drawn parallel to the walkway, but an **X** is indicated appropriately.

[2] Only one correct locus is drawn, but **X**s indicate the two appropriate locations of the intersection of the loci.

[1] **X**s are drawn in the correct locations, but no loci are shown.

or

[1] Only one correct locus is drawn, and no **X**s are indicated.

or

[1] Both loci are drawn incorrectly, but **X**s are drawn on the appropriate points of intersection.

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

(33) **[4]** 100 and a correct parabolic arch is drawn, and appropriate work is shown, such as a table of values for the parabola or correctly labeled points.

[3] 100 and a correct parabolic arch is drawn, but no table of values or labeled points are shown.

or

[3] 100 and a correct parabolic arch is drawn, and appropriate work is shown, but no scale or an incorrect scale is shown.

or

[3] A correct parabolic arch is drawn, but the maximum height is missing or is incorrect.

[2] An incorrect parabolic arch is drawn, but an appropriate maximum height is found.

or

[2] A correct height is determined algebraically, but a parabolic arch is not drawn.

or

[2] 100 and an appropriate parabolic arch is drawn, but it is not drawn between $0 \le x \le 20$.

[1] A correct parabolic arch is drawn, but no work is shown, such as a table of values or correctly labeled points, and the maximum height is missing or is incorrect.

or

[1] 100, but no work is shown and no parabolic arch is drawn.

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

(34) **[4]** 9.4, and appropriate work is shown, such as the use of the Pythagorean theorem.

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

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

or

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

or

[2] An incorrect diagonal of the base is found, but an appropriate solution is found.

or

[2] Only the diagonal of the base is found correctly, but appropriate work is shown, such as $3^2 + 4^2 = d^2$ or use of 3–4–5 right triangles.

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

or

[1] The Pythagorean theorem is used to find the length of the straw, but the appropriate legs are not used.

or

[1] 9.4, but no work is shown.

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

(35) **[4]** $y = 2x - 40$, a correctly drawn graph with a slope of 2 and a y-intercept of –40, and 20, and appropriate work is shown.

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

or

[3] The equation and graph are correct, but the breakeven point is missing or is incorrect.

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

or

[2] An incorrect equation is written, but an appropriate graph is drawn, and an appropriate breakeven point is identified.

[1] An incorrect equation is written, but an appropriate graph is drawn, but the breakeven point is missing or is incorrect.

or

[1] A correct equation is written, but the graph is incorrect, and the breakeven point is not identified.

or

[1] $y = 2x - 40$ and 20, but no work is shown and no graph is drawn.

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

Map to Learning Standards

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

Regents Examination in Mathematics A

June 2003

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

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

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 scaled score that corresponds to that raw score. The scaled score is the student's final examination score. Enter this score in the space labeled "Scaled Score" on the student's answer sheet.

All student answer papers that receive a scaled score of 60 through 64 **must** be scored a second time. 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. The school principal is responsible for assuring that the student's final examination score is based on a fair, accurate, and reliable scoring of the student's answer paper.

Because scaled 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 in the scoring key for that administration be used to determine the student's final score. The chart above is usable only for this administration of the mathematics A examination.