

# INTEGRATED ALGEBRA

Tuesday, June 17, 2008 – 9:15 a.m. to 12:15 p.m., only

Print Your Name:

Print Your School's Name:

Print your name and the name of your school in the boxes above.

Scrap paper is not permitted for any part of this examination, but you may use the blank spaces in this booklet as scrap paper. A perforated sheet of scrap graph paper is provided at the end of this booklet for any question for which graphing may be helpful but is not required. You may remove this sheet from this booklet. Any work done on this sheet of scrap graph paper will *not* be scored.

The formulas that you may need to answer some questions in this examination are found at the end of the examination. This sheet is perforated so you may remove it from this booklet.

This examination has four parts, with a total of 39 questions. You must answer all questions in this examination. Record your answers to the Part I multiple-choice questions, using a #2 pencil on the separate answer sheet provided to you. Write your answers to the questions in Parts II, III, and IV directly in this test booklet. All work for Parts II, III, and IV should be written in pen, except graphs and drawings, which should be done in pencil. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc.

When you have completed the examination, you must sign the statement printed at the end of the answer sheet, indicating that you had no unlawful knowledge of the questions or answers prior to the examination and that you have neither given nor received assistance in answering any of the questions during the examination. Your answer sheet cannot be accepted if you fail to sign this declaration.

**Notice:**

A graphing calculator and a straightedge (ruler) must be available for you to use while taking this examination.

The use of any communications device is strictly prohibited when taking this examination. If you use any communications device, no matter how briefly, your examination will be invalidated and no score will be calculated for you.

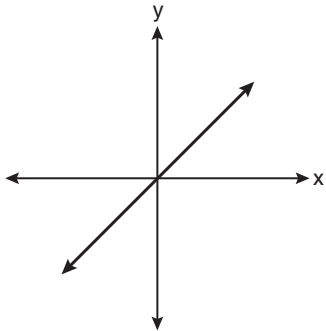
**DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.**

## Part I

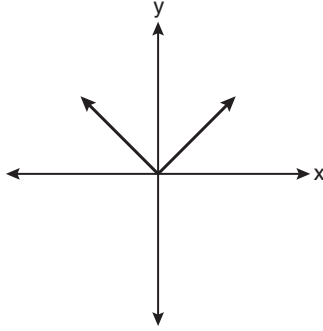
Answer all questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. For each question, record your answer using a #2 pencil on the separate answer sheet provided to you. [60]

Use this space for computations.

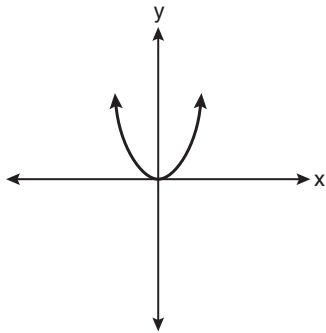
1 Which graph represents a linear function?



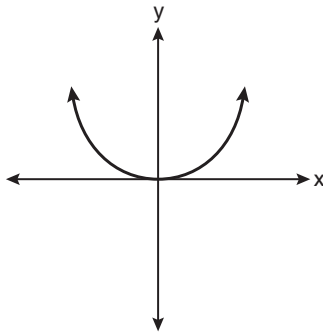
(1)



(3)



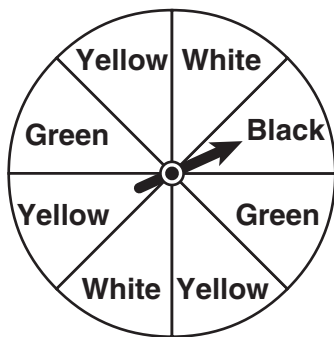
(2)



(4)

**Use this space for computations.**

- 2 A spinner is divided into eight equal regions as shown in the diagram below.

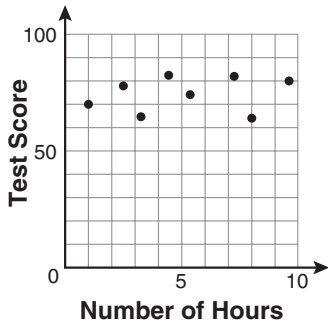


Which event is most likely to occur in one spin?

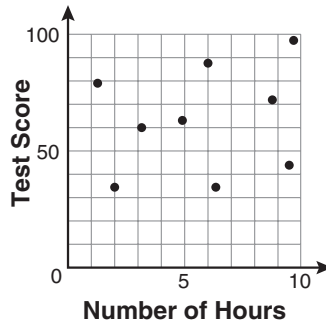
- (1) The arrow will land in a green or white area.
  - (2) The arrow will land in a green or black area.
  - (3) The arrow will land in a yellow or black area.
  - (4) The arrow will land in a yellow or green area.
- 3 A school wants to add a coed soccer program. To determine student interest in the program, a survey will be taken. In order to get an unbiased sample, which group should the school survey?
- (1) every third student entering the building
  - (2) every member of the varsity football team
  - (3) every member in Ms. Zimmer's drama classes
  - (4) every student having a second-period French class
- 4 Factored, the expression  $16x^2 - 25y^2$  is equivalent to
- (1)  $(4x - 5y)(4x + 5y)$
  - (2)  $(4x - 5y)(4x - 5y)$
  - (3)  $(8x - 5y)(8x + 5y)$
  - (4)  $(8x - 5y)(8x - 5y)$

Use this space for computations.

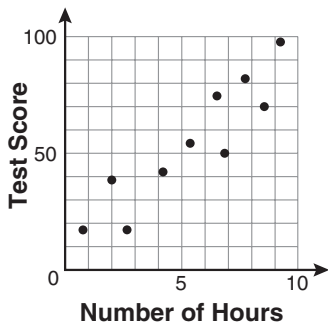
- 5 There is a negative correlation between the number of hours a student watches television and his or her social studies test score. Which scatter plot below displays this correlation?



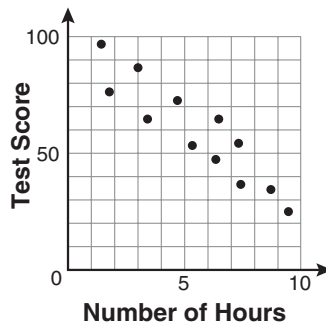
(1)



(3)



(2)



(4)

- 6 Jack bought 3 slices of cheese pizza and 4 slices of mushroom pizza for a total cost of \$12.50. Grace bought 3 slices of cheese pizza and 2 slices of mushroom pizza for a total cost of \$8.50. What is the cost of one slice of mushroom pizza?

- (1) \$1.50                      (3) \$3.00  
(2) \$2.00                      (4) \$3.50

**Use this space for  
computations.**

**7** What is the product of  $-3x^2y$  and  $(5xy^2 + xy)$ ?

(1)  $-15x^3y^3 - 3x^3y^2$

(3)  $-15x^2y^2 - 3x^2y$

(2)  $-15x^3y^3 - 3x^3y$

(4)  $-15x^3y^3 + xy$

**8** The bowling team at Lincoln High School must choose a president, vice president, and secretary. If the team has 10 members, which expression could be used to determine the number of ways the officers could be chosen?

(1)  ${}_3P_{10}$

(3)  ${}_{10}P_3$

(2)  ${}_7P_3$

(4)  ${}_{10}P_7$

**9** Lenny made a cube in technology class. Each edge measured 1.5 cm. What is the volume of the cube in cubic centimeters?

(1) 2.25

(3) 9.0

(2) 3.375

(4) 13.5

**10** Which ordered pair is a solution to the system of equations  $y = x$  and  $y = x^2 - 2$ ?

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

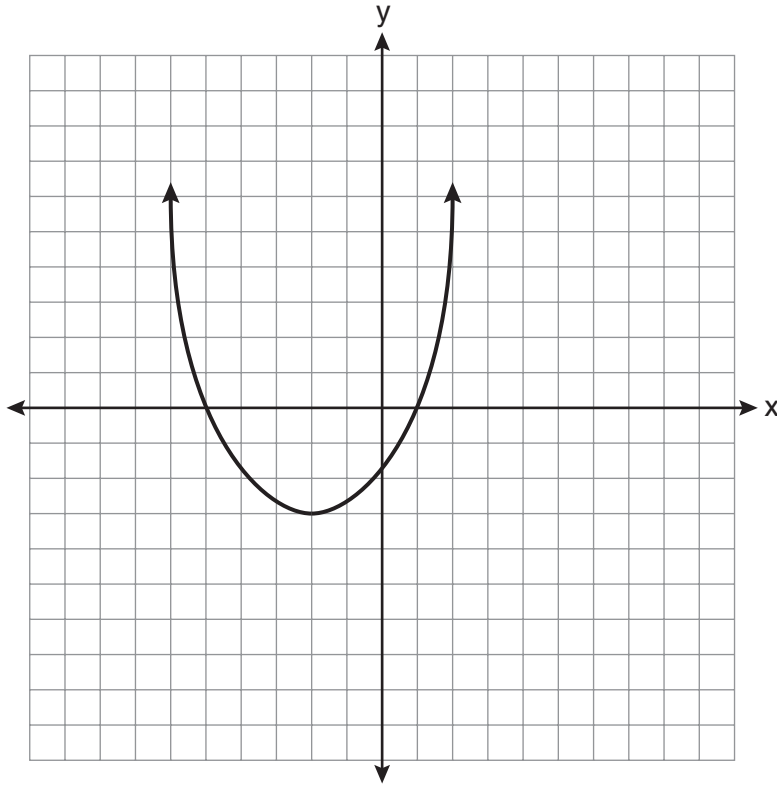
(3)  $(0, 0)$

(2)  $(-1, 1)$

(4)  $(2, 2)$

Use this space for computations.

11 What are the vertex and the axis of symmetry of the parabola shown in the diagram below?



- (1) The vertex is  $(-2, -3)$ , and the axis of symmetry is  $x = -2$ .
  - (2) The vertex is  $(-2, -3)$ , and the axis of symmetry is  $y = -2$ .
  - (3) The vertex is  $(-3, -2)$ , and the axis of symmetry is  $y = -2$ .
  - (4) The vertex is  $(-3, -2)$ , and the axis of symmetry is  $x = -2$ .
- 12 Pam is playing with red and black marbles. The number of red marbles she has is three more than twice the number of black marbles she has. She has 42 marbles in all. How many red marbles does Pam have?
- (1) 13
  - (2) 15
  - (3) 29
  - (4) 33

Use this space for  
computations.

13 What is half of  $2^6$ ?

(1)  $1^3$

(3)  $2^3$

(2)  $1^6$

(4)  $2^5$

14 Which equation represents a line that is parallel to the line  
 $y = -4x + 5$ ?

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

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

(2)  $y = -\frac{1}{4}x + 5$

(4)  $y = 4x + 5$

15 What is the product of  $\frac{x^2-1}{x+1}$  and  $\frac{x+3}{3x-3}$  expressed in  
simplest form?

(1)  $x$

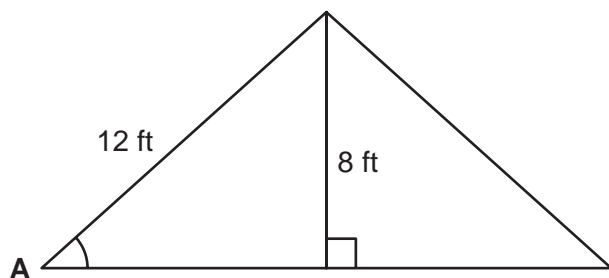
(3)  $x + 3$

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

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

**Use this space for  
computations.**

- 16** The center pole of a tent is 8 feet long, and a side of the tent is 12 feet long as shown in the diagram below.



If a right angle is formed where the center pole meets the ground, what is the measure of angle A to the *nearest degree*?

- (1) 34                                      (3) 48  
(2) 42                                      (4) 56
- 17** Which value of  $x$  makes the expression  $\frac{x+4}{x-3}$  undefined?
- (1) -4                                      (3) 3  
(2) -3                                      (4) 0

- 18** Consider the set of integers greater than -2 and less than 6. A subset of this set is the positive factors of 5. What is the complement of this subset?
- (1) {0, 2, 3, 4}                                      (3) {-2, -1, 0, 2, 3, 4, 6}  
(2) {-1, 0, 2, 3, 4}                                      (4) {-2, -1, 0, 1, 2, 3, 4, 5, 6}



**Use this space for  
computations.**

**19** Which data set describes a situation that could be classified as qualitative?

- (1) the elevations of the five highest mountains in the world
- (2) the ages of presidents at the time of their inauguration
- (3) the opinions of students regarding school lunches
- (4) the shoe sizes of players on the basketball team

**20** What is the slope of the line that passes through the points  $(-6,1)$  and  $(4,-4)$ ?

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

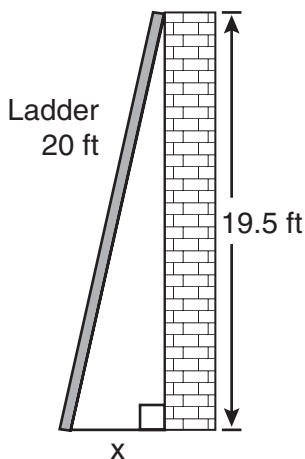
**21** Students in a ninth grade class measured their heights,  $h$ , in centimeters. The height of the shortest student was 155 cm, and the height of the tallest student was 190 cm. Which inequality represents the range of heights?

- (1)  $155 < h < 190$
- (2)  $155 \leq h \leq 190$
- (3)  $h \geq 155$  or  $h \leq 190$
- (4)  $h > 155$  or  $h < 190$



Use this space for computations.

- 25 Don placed a ladder against the side of his house as shown in the diagram below.



Which equation could be used to find the distance,  $x$ , from the foot of the ladder to the base of the house?

- (1)  $x = 20 - 19.5$                       (3)  $x = \sqrt{20^2 - 19.5^2}$   
(2)  $x = 20^2 - 19.5^2$                       (4)  $x = \sqrt{20^2 + 19.5^2}$

- 26 Which value of  $x$  is a solution of  $\frac{5}{x} = \frac{x+13}{6}$ ?

- (1) -2                                      (3) -10  
(2) -3                                      (4) -15

- 27 Mrs. Ayer is painting the outside of her son's toy box, including the top and bottom. The toy box measures 3 feet long, 1.5 feet wide, and 2 feet high. What is the total surface area she will paint?

- (1)  $9.0 \text{ ft}^2$                               (3)  $22.5 \text{ ft}^2$   
(2)  $13.5 \text{ ft}^2$                               (4)  $27.0 \text{ ft}^2$

**Use this space for  
computations.**

**28** What is  $\frac{\sqrt{32}}{4}$  expressed in simplest radical form?

(1)  $\sqrt{2}$

(3)  $\sqrt{8}$

(2)  $4\sqrt{2}$

(4)  $\frac{\sqrt{8}}{2}$

**29** Consider the graph of the equation  $y = ax^2 + bx + c$ , when  $a \neq 0$ . If  $a$  is multiplied by 3, what is true of the graph of the resulting parabola?

(1) The vertex is 3 units above the vertex of the original parabola.

(2) The new parabola is 3 units to the right of the original parabola.

(3) The new parabola is wider than the original parabola.

(4) The new parabola is narrower than the original parabola.

**30** Kathy plans to purchase a car that depreciates (loses value) at a rate of 14% per year. The initial cost of the car is \$21,000. Which equation represents the value,  $v$ , of the car after 3 years?

(1)  $v = 21,000(0.14)^3$

(3)  $v = 21,000(1.14)^3$

(2)  $v = 21,000(0.86)^3$

(4)  $v = 21,000(0.86)(3)$

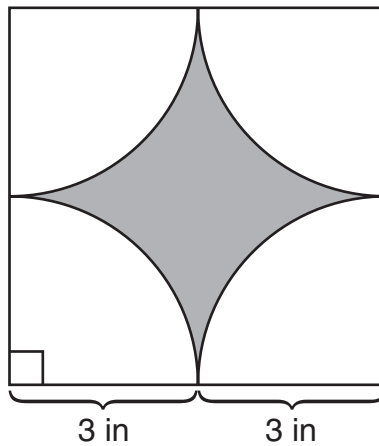
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## Part II

Answer all questions in this part. Each correct answer will receive 2 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [6]

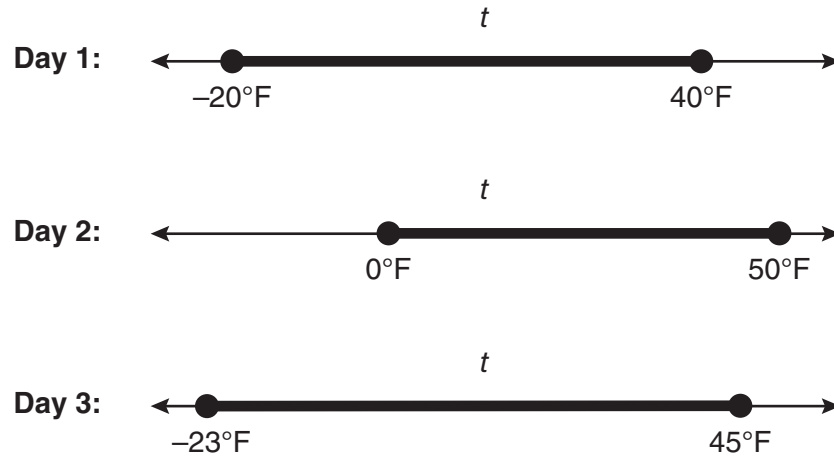
- 31 Tom drove 290 miles from his college to home and used 23.2 gallons of gasoline. His sister, Ann, drove 225 miles from her college to home and used 15 gallons of gasoline. Whose vehicle had better gas mileage? Justify your answer.

**32** A designer created the logo shown below. The logo consists of a square and four quarter-circles of equal size.



Express, in terms of  $\pi$ , the exact area, in square inches, of the shaded region.

**33** Maureen tracks the range of outdoor temperatures over three days. She records the following information.



Express the intersection of the three sets as an inequality in terms of temperature,  $t$ .

### Part III

Answer all questions in this part. Each correct answer will receive 3 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [9]

34 Peter begins his kindergarten year able to spell 10 words. He is going to learn to spell 2 new words every day.

Write an inequality that can be used to determine how many days,  $d$ , it takes Peter to be able to spell *at least* 75 words.

Use this inequality to determine the minimum number of whole days it will take for him to be able to spell *at least* 75 words.



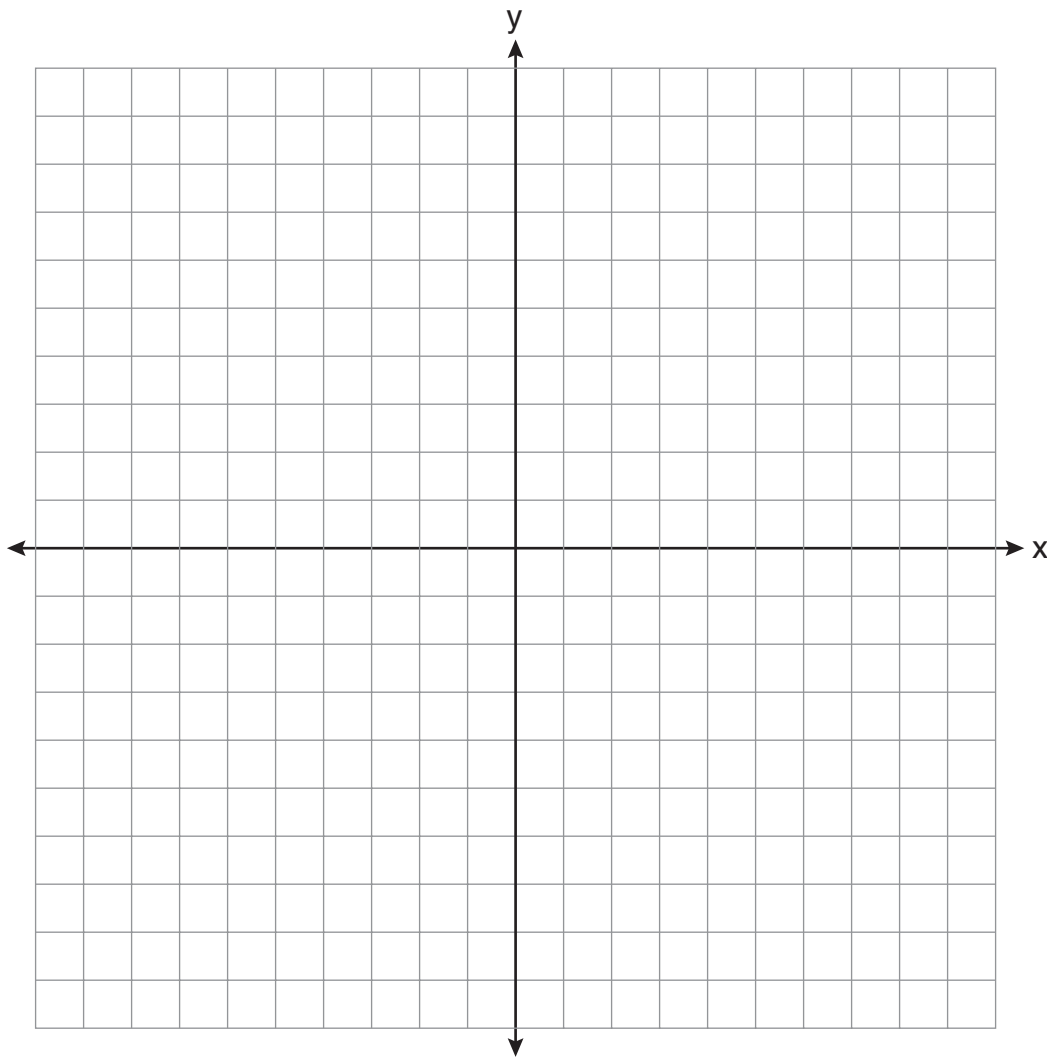
**35** The Hudson Record Store is having a going-out-of-business sale. CDs normally sell for \$18.00. During the first week of the sale, all CDs will sell for \$15.00.

Written as a fraction, what is the rate of discount?

What is this rate expressed as a percent? Round your answer to the *nearest hundredth of a percent*.

During the second week of the sale, the same CDs will be on sale for 25% off the *original* price. What is the price of a CD during the second week of the sale?

**36** Graph the equation  $y = x^2 - 2x - 3$  on the accompanying set of axes.  
Using the graph, determine the roots of the equation  $x^2 - 2x - 3 = 0$ .



## Part IV

Answer all questions in this part. Each correct answer will receive 4 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [12]

**37** A contractor needs 54 square feet of brick to construct a rectangular walkway. The length of the walkway is 15 feet more than the width.

Write an equation that could be used to determine the dimensions of the walkway. Solve this equation to find the length and width, in feet, of the walkway.

**38** Sophie measured a piece of paper to be 21.7 cm by 28.5 cm. The piece of paper is actually 21.6 cm by 28.4 cm.

Determine the number of square centimeters in the area of the piece of paper using Sophie's measurements.

Determine the number of square centimeters in the actual area of the piece of paper.

Determine the relative error in calculating the area. Express your answer as a decimal to the *nearest thousandth*.

Sophie does not think there is a significant amount of error. Do you agree or disagree? Justify your answer.

**39** The prices of seven race cars sold last week are listed in the table below.

| <b>Price per Race Car</b> | <b>Number of Race Cars</b> |
|---------------------------|----------------------------|
| \$126,000                 | 1                          |
| \$140,000                 | 2                          |
| \$180,000                 | 1                          |
| \$400,000                 | 2                          |
| \$819,000                 | 1                          |

What is the mean value of these race cars, in dollars?

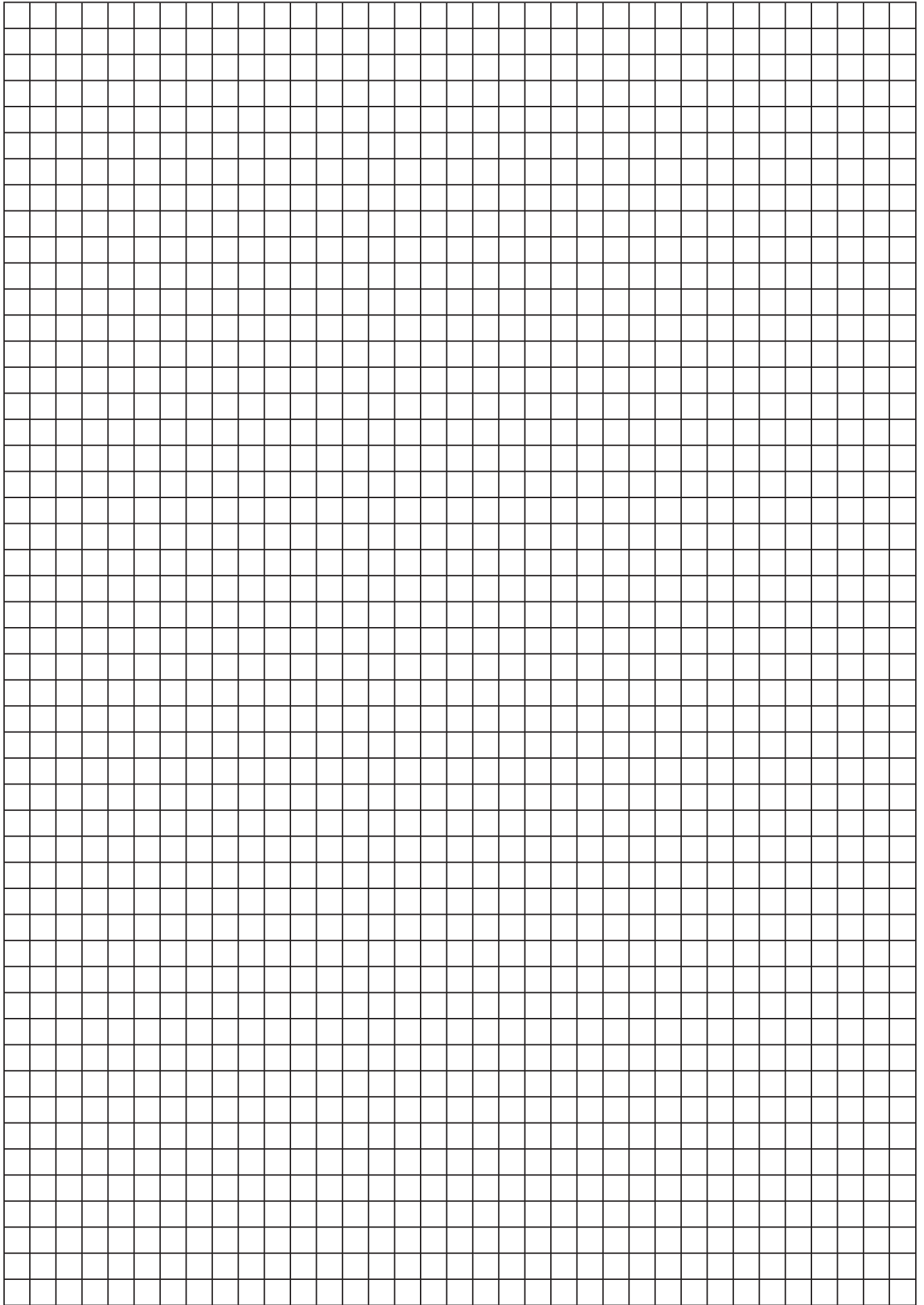
What is the median value of these race cars, in dollars?

State which of these measures of central tendency best represents the value of the seven race cars. Justify your answer.

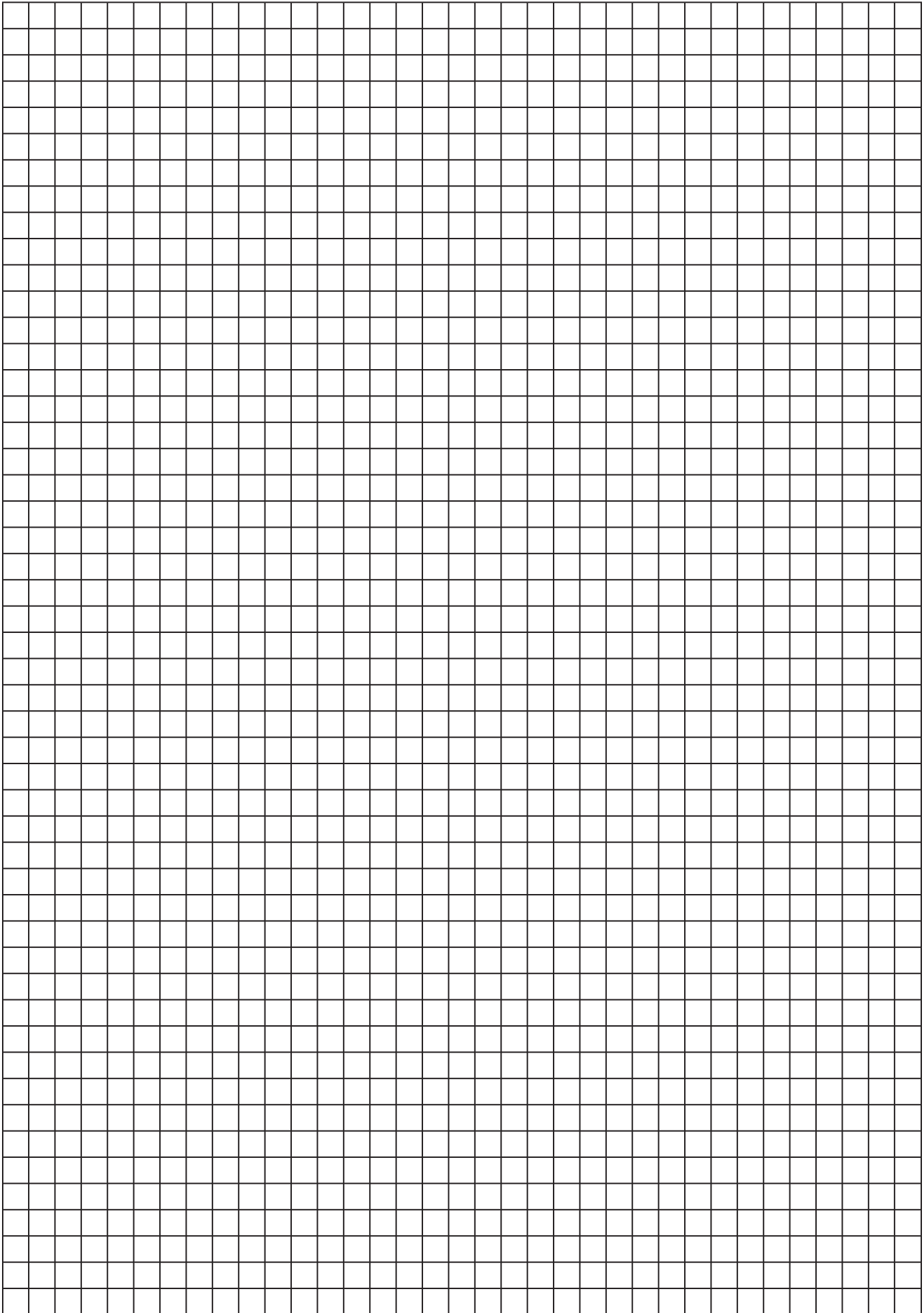
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**Scrap Graph Paper — This sheet will *not* be scored.**



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## Reference Sheet

Trigonometric Ratios

$$\sin A = \frac{\textit{opposite}}{\textit{hypotenuse}}$$

$$\cos A = \frac{\textit{adjacent}}{\textit{hypotenuse}}$$

$$\tan A = \frac{\textit{opposite}}{\textit{adjacent}}$$

Area

trapezoid  $A = \frac{1}{2}h(b_1 + b_2)$

Volume

cylinder  $V = \pi r^2 h$

Surface Area

rectangular prism  $SA = 2lw + 2hw + 2lh$

cylinder  $SA = 2\pi r^2 + 2\pi rh$

Coordinate Geometry

$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$



# FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

## INTEGRATED ALGEBRA

Tuesday, June 17, 2008 — 9:15 a.m. to 12:15 p.m., only

### SCORING KEY

#### 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 Examination in Integrated Algebra*.

Use only a No. 2 pencil in rating the Regents Examination in Integrated Algebra. Do *not* attempt to correct the student's work by making insertions or changes of any kind. Scoring overlays have been included in the package of scoring materials and must be used to score Part I, the multiple-choice section. When scoring the examination:

- **cut out** the rectangular space on the bottom of the scoring overlay to record the total Part I score
- **do not** punch holes in the scoring overlay
- **do not** make any marks on the answer sheet, other than in the spaces provided for recording scores
- **do not** machine scan the answer sheets. Marking up or scanning these answer sheets will interfere with the score collection.

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 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 answer sheet. Make a careful record to be retained in the school of the total raw score earned by each student. The State Education Department will provide a recordkeeping form for this purpose as part of the detailed directions for administering and scoring the June 2008 Regents Examination in Integrated Algebra.

The conversion chart for the Regents Examination in Integrated Algebra will be posted on the Department's web site <http://www.emsc.nysed.gov/osa/> no later than Rating Day, Thursday, June 26, 2008.

**Part I**

Allow a total of 60 credits, 2 credits for each of the following:

|       |        |        |        |
|-------|--------|--------|--------|
| (1) 1 | (9) 2  | (17) 3 | (25) 3 |
| (2) 4 | (10) 4 | (18) 2 | (26) 4 |
| (3) 1 | (11) 1 | (19) 3 | (27) 4 |
| (4) 1 | (12) 3 | (20) 3 | (28) 1 |
| (5) 4 | (13) 4 | (21) 2 | (29) 4 |
| (6) 2 | (14) 1 | (22) 3 | (30) 2 |
| (7) 1 | (15) 4 | (23) 4 |        |
| (8) 3 | (16) 2 | (24) 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 Examination in Integrated Algebra are designed to provide a systematic, consistent method for awarding credit. The rubrics are not to be considered all-inclusive; it is impossible to anticipate all the different methods that students might use to solve a given problem. Each response must be rated carefully using the teacher’s professional judgment and knowledge of mathematics; all calculations must be checked. The specific rubrics for each question must be applied consistently to all responses. In cases that are not specifically addressed in the rubrics, raters must follow the general rating guidelines in the publication *Information Booklet for Scoring the Regents Examination in Integrated Algebra*, 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; i.e., 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] Ann’s, and appropriate work is shown to justify the answer.

[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] Appropriate work is shown calculating gas mileage of both vehicles, but no further correct work is shown.

[0] Ann’s, 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.

(32) [2]  $36 - 9\pi$  or  $36 - 3^2\pi$ , 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] Appropriate work is shown, but the answer is not expressed in terms of  $\pi$ .

*or*

[1]  $36 - 9\pi$ , 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]**  $0 \leq t \leq 40$  or an equivalent answer.

**[1]** Appropriate work is shown, but one conceptual error is made, such as  $0 < t < 40$  or  $-23 \leq t \leq 50$ .

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

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**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]  $10 + 2d \geq 75$  or an equivalent inequality and 33, and appropriate work is shown.

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

[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.

*or*

[1] An incorrect inequality of equal difficulty is solved appropriately.

*or*

[1]  $10 + 2d \geq 75$ , but no further correct work is shown.

*or*

[1] 33, but no work is shown.

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

(35) [3]  $\frac{3}{18}$  and  $16\frac{2}{3}\%$  or  $16.\bar{6}\%$  or equivalent answers, and \$13.50, and appropriate work is shown.

[2] Appropriate work is shown, but one rounding error is made, such as 16.6%, 16.7%, or 17%.

*or*

[2] An incorrect fractional rate of discount is found, but an appropriate percent is stated, and \$13.50 is found.

*or*

[2] Appropriate work is shown, but only two correct answers are found.

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

*or*

[1] Appropriate work is shown, but only one correct answer is found.

*or*

[1]  $\frac{3}{18}$ ,  $16\frac{2}{3}\%$ , and \$13.50, but no work is shown.

[0]  $\frac{3}{18}$ ,  $16\frac{2}{3}\%$ , or \$13.50, 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.

- (36) [3] The correct graph is drawn, and  $-1$  and  $3$  are found.
- [2] Appropriate work is shown, but one graphing error is made, but appropriate roots are identified.
- or*
- [2] The graph of the parabola is drawn correctly, but no further correct work is shown.
- [1] Appropriate work is shown, but two or more graphing errors are made, but appropriate roots are identified.
- or*
- [1] Appropriate work is shown, but one conceptual error is made.
- or*
- [1]  $-1$  and  $3$  are stated, but no work is shown.
- [0]  $-1$  or  $3$  is stated, 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.
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**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] An appropriate equation is written, width = 3, length = 18, and appropriate work is shown.

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

*or*

[3] Appropriate work is shown, but the length and width are not labeled or are labeled incorrectly.

*or*

[3] Appropriate work is shown to find either the length or the width of the walkway, but no further correct work is shown.

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

*or*

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

*or*

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

[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] Width = 3 and length = 18, but no work is shown.

[0] Width = 3 or length = 18, but no work is shown.

*or*

[0] 3 and 18, 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] 618.45, 613.44, and 0.008, and appropriate work is shown, and an appropriate justification is given.

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

*or*

[3] 618.45, 613.44, and 0.008, and appropriate work is shown, but no justification is given.

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

*or*

[2] Appropriate work is shown, but one conceptual error is made, such as dividing by 618.45.

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

*or*

[1] 618.45 and 613.44, and appropriate work is shown, but no further correct work is shown.

*or*

[1] 618.45, 613.44, and 0.008, but no work is shown.

[0] 618.45 or 613.44, and appropriate work is shown, but no further correct 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] Mean = 315,000, median = 180,000, and the median is stated to be the best measure of central tendency, an appropriate justification is given, and appropriate work is shown.

[3] Appropriate work is shown, but one computational error is made, but an appropriate measure of central tendency is stated, and an appropriate justification is given.

*or*

[3] Mean = 315,000, median = 180,000, and the median is stated to be the best measure of central tendency, but no further correct work is shown.

[2] Appropriate work is shown, but two computational errors are made, but an appropriate measure of central tendency is stated, and an appropriate justification is given.

*or*

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

*or*

[2] Appropriate work is shown to find mean = 315,000 and median = 180,000, but no further correct work is shown.

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

*or*

[1] Appropriate work is shown to find mean = 315,000 or median = 180,000, but no further correct work is shown.

*or*

[1] Mean = 315,000 and median = 180,000, but no further correct work is shown, and no justification is given.

[0] Mean = 315,000 or median = 180,000, but no further correct work is shown, and no justification 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.

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## Map to Learning Standards

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

### Regents Examination in Integrated Algebra

June 2008

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

***The Chart for Determining the Final Examination Score for the June 2008 Regents Examination in Integrated Algebra will be posted on the Department's web site <http://www.emsc.nysed.gov/osa/> on Thursday, June 26, 2008.***

### 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](http://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.

The University of the State of New York  
THE STATE EDUCATION DEPARTMENT  
Office of State Assessment  
Albany, New York 12234

## Scoring Clarification for Teachers

### Regents Examination in Integrated Algebra Tuesday, June 17, 2008, 9:15 a.m.

This notice is to provide clarification for the scoring of Question 35 of the June 2008 Regents Examination in Integrated Algebra.

The correct answer for the second part of this question is 16.67%.

Because it is indicated in the rating guide as a part of a full three-credit response, students who wrote  $16\frac{2}{3}\%$  or  $16.\overline{6}\%$  for a response to the second part of the question should **not** have one credit deducted for a rounding error.

However, as indicated in the rating guide as part of a two-credit response, students who made rounding errors such as 16.6%, 16.7%, or 17% should have one credit deducted for the error.

**Please photocopy this notice and give a copy of it to each teacher scoring the June 2008 Regents Examination in Integrated Algebra.**



## Regents Examination in Integrated Algebra June 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 | Raw Score | Scale Score |
|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|
| 87        | 100         | 65        | 85          | 43        | 76          | 21        | 53          |
| 86        | 99          | 64        | 84          | 42        | 75          | 20        | 51          |
| 85        | 98          | 63        | 84          | 41        | 74          | 19        | 49          |
| 84        | 97          | 62        | 84          | 40        | 74          | 18        | 47          |
| 83        | 96          | 61        | 83          | 39        | 73          | 17        | 45          |
| 82        | 95          | 60        | 83          | 38        | 72          | 16        | 44          |
| 81        | 94          | 59        | 83          | 37        | 72          | 15        | 41          |
| 80        | 93          | 58        | 82          | 36        | 71          | 14        | 39          |
| 79        | 93          | 57        | 82          | 35        | 70          | 13        | 37          |
| 78        | 92          | 56        | 82          | 34        | 69          | 12        | 35          |
| 77        | 91          | 55        | 81          | 33        | 68          | 11        | 32          |
| 76        | 91          | 54        | 81          | 32        | 67          | 10        | 30          |
| 75        | 90          | 53        | 80          | 31        | 66          | 9         | 27          |
| 74        | 89          | 52        | 80          | 30        | 65          | 8         | 25          |
| 73        | 89          | 51        | 80          | 29        | 64          | 7         | 22          |
| 72        | 88          | 50        | 79          | 28        | 63          | 6         | 19          |
| 71        | 88          | 49        | 79          | 27        | 61          | 5         | 16          |
| 70        | 87          | 48        | 78          | 26        | 60          | 4         | 13          |
| 69        | 87          | 47        | 78          | 25        | 59          | 3         | 10          |
| 68        | 86          | 46        | 77          | 24        | 57          | 2         | 7           |
| 67        | 86          | 45        | 77          | 23        | 56          | 1         | 3           |
| 66        | 86          | 44        | 76          | 22        | 54          | 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 column labeled "Final Examination Score" in the school record of students' total raw scores.

*It is recommended that all student answer papers that received a scale score of 60-64 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 the June 2008 administration of the Regents Examination in Integrated Algebra.