The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

INTEGRATED ALGEBRA

Wednesday, June 1, 2016 — 1:15 to 4:15 p.m., only

Student Name:_____

School Name: _____

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

Print your name and the name of your school on the lines above.

A separate answer sheet for Part I has been provided to you. Follow the instructions from the proctor for completing the student information on your answer sheet.

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 on the separate answer sheet. Write your answers to the questions in Parts II, III, and IV directly in this booklet. All work 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. 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.

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.

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.


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

Answer all 30 questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. For each question, write on the separate answer sheet the numeral preceding the word or expression that best completes the statement or answers the question. [60]

Use this space for computations.

1 A line of best fit has been drawn on the scatter plot below.
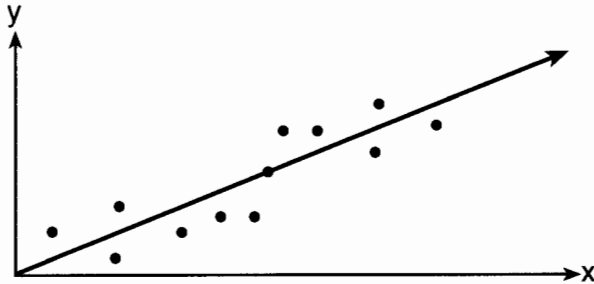
The relationship between these variables can be described as having

(1) a negative correlation   (3) a positive correlation

(2) no correlation   (4) zero correlation

2 The amount of money spent at a parking meter varies directly with the amount of time spent parked in the parking space. Noah spent $1.50 to park 90 minutes. How many minutes can he park for $4.00?

(1) 667   (3) 240

(2) 360   (4) 135

3 An athlete has one blue jersey and one orange jersey, as well as 3 different colors of pants. He also has 2 different colors of helmets. How many distinct uniforms consisting of one helmet, one jersey, and one pair of pants does the athlete have?

(1) 5   (3) 7

(2) 6   (4) 12

4 Given:

$$A = \{0,1,2,3,4\}$$
$$B = \{0,2,3,5,7\}$$
$$C = \{0,2,4,6,8\}$$

What is the intersection of sets A, B, and C?
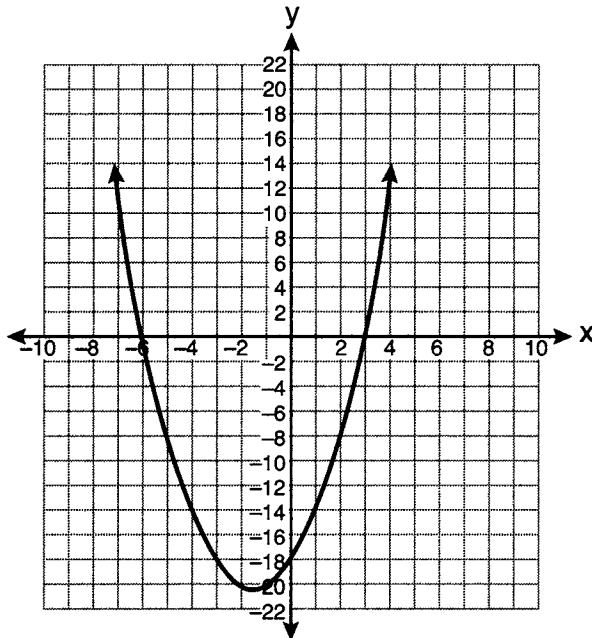
(1) $\{0\}$ (3) $\{0,2,3,4\}$

(2) $\{0,2\}$ (4) $\{0,1,2,3,4,5,6,7,8\}$

5 The equation $y = x^2 + 3x - 18$ is graphed on the set of axes below.

Based on this graph, what are the roots of the equation $x^2 + 3x - 18 = 0$?

(1) -3 and 6 (3) 3 and -6

(2) 0 and -18 (4) 3 and -18

6 What is an equation of the line that passes through $(-2,3)$ and $(6,-1)$?

(1) $y = -\dfrac{1}{2}x + 2$　　　　(3) $y = 2x + 7$

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

7 If each member of the data set $\{2,2,3,5,8\}$ is multiplied by 2, which changes will take place in the mean, median, and mode of the data?

(1) The mean, median, and mode will be multiplied by 2.

(2) The median will remain the same; the mean and mode will be multiplied by 2.

(3) The mode will remain the same; the mean and median will be multiplied by 2.

(4) The mean will remain the same; the median and mode will be multiplied by 2.

8 Which characteristic of a cat is qualitative?

(1) age　　　　　　(3) length

(2) color　　　　　(4) weight

9 What is the value of A in the following system of equations?

$$2A + 3W = 12$$
$$6A - 5W = 8$$

(1) 1　　　　　　(3) 3

(2) 2　　　　　　(4) 9

10 A cell phone company is conducting a survey to determine the cell phone features that its customers use. Which survey is *least* biased?

(1) The company conducts the survey on teenagers.

(2) The company conducts the survey on all age groups.

(3) The company conducts the survey on retired females.

(4) The company conducts the survey on middle-aged males.

11 Which pair of linear equations represents parallel lines?

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

(2) $x + y = 5$
$\quad -x + y = 4$

(3) $y = 5x + 1$
$\quad y = -5x + 7$

(4) $2x + y = 4$
$\quad y + 2x = 8$

12 Which set of points does *not* represent a function?
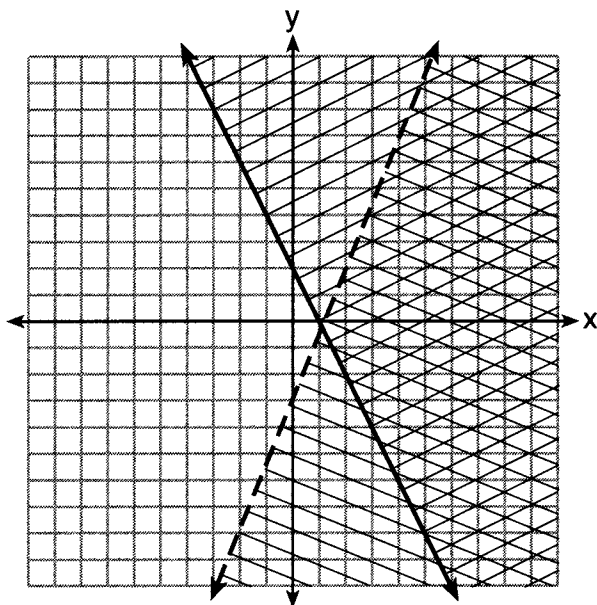
(1) $\{(-3,-2),(-1,-2),(0,-1),(1,0)\}$

(2) $\{(-2,3),(0,4),(3,-2),(4,2)\}$

(3) $\{(2,-2),(1,4),(2,5),(3,6)\}$

(4) $\{(-2,4),(1,1),(2,4),(3,9)\}$

13 A system of inequalities is graphed on the set of axes below.

The coordinates of a point in the solution of this system of inequalities are

(1) $(4,7)$ (3) $(-2,-1)$

(2) $(1,-4)$ (4) $(3,1)$

14 The axis of symmetry and the vertex of $y = x^2 - 4x + 10$ are

(1) $x = 2$ and $(2,6)$ (3) $y = -2$ and $(-2,6)$

(2) $y = 2$ and $(2,6)$ (4) $x = -2$ and $(-2,6)$

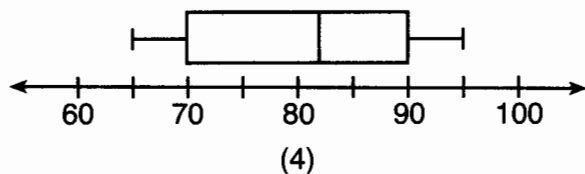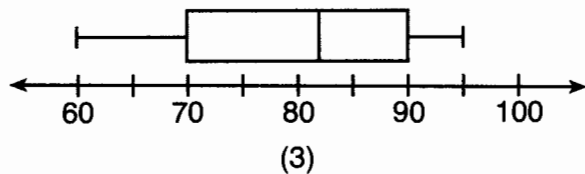**15** What is the slope of the line whose equation is $4x = 3(y + 8)$?

(1) $\dfrac{4}{3}$ (3) $-\dfrac{4}{3}$

(2) $\dfrac{3}{4}$ (4) $-\dfrac{3}{4}$

16 The students in Ms. Glenn's math class earned the grades shown below.

$$65, 70, 70, 80, 80, 82, 88, 88, 90, 90, 95$$

Which box-and-whisker plot represents these data?

(1)

(2)

(3)

(4)
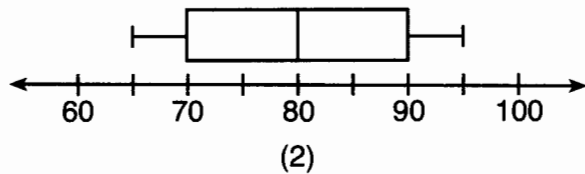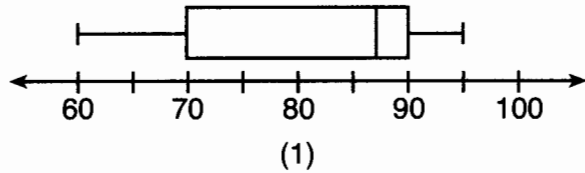
17 When translated into symbols, "three less than half of a number" is

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

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

18 An example of an algebraic expression is

(1) $6x - 2 \geq 4$ (3) $(x - 4)(x - 1) = 6$

(2) $3x + 2y < -10$ (4) $3x^2 - 10x - 3$

19 Which equation could be used to find the measure of one acute angle in the right triangle shown below?

(1) $\tan A = \dfrac{7}{12}$

(3) $\sin C = \dfrac{12}{7}$

(2) $\tan A = \dfrac{12}{7}$

(4) $\cos A = \dfrac{7}{12}$

20 Which interval notation describes the set $S = \{x | -5 < x \le 6\}$?
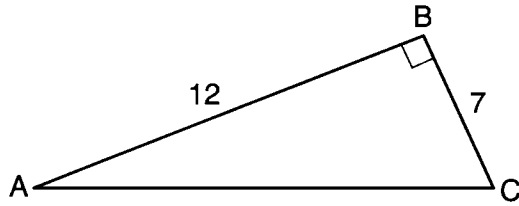
(1) $[-5,6]$

(3) $[-5,6)$

(2) $(-5,6]$

(4) $(-5,6)$

21 Robert invests \$800 in an account at 1.8% interest compounded annually. He will make no deposits or withdrawals on this account for 3 years. Which formula could be used to find the balance, A, in the account after the 3 years?

(1) $A = 800(1 - .18)^3$

(3) $A = 800(1 - .018)^3$

(2) $A = 800(1 + .18)^3$

(4) $A = 800(1 + .018)^3$

22 Which value of x is a solution of $-5x - 3 > -2x + 6$?

(1) -4

(3) 3

(2) -3

(4) 0

23 Given $W = \dfrac{V^2 t}{R}$, which expression can be used to represent t in terms of W, R, and V?

(1) $\dfrac{WR}{V^2}$ (3) $\dfrac{W}{R} - V^2$

(2) $\dfrac{W}{RV^2}$ (4) $WR - V^2$

24 The longest side of a right triangle is 25. If one of the other sides is 5, which measure is the length of the missing side?

(1) $5\sqrt{26}$ (3) 30

(2) $10\sqrt{6}$ (4) 60

25 Which statement is correct?

(1) $(2b^3 c^5)(-3b^2 c) = -6b^5 c^5$

(2) $\dfrac{6m^3 t^8}{-2m^5 t^3} = \dfrac{-3t^5}{m^2}$

(3) $(-5n^4 q)^2 = 25n^6 q^2$

(4) $\dfrac{t^3}{v^5} \div \dfrac{v}{t} = \dfrac{t^2}{v^2}$

26 What value of x would make the expression $\dfrac{x}{2x + 1}$ undefined?

(1) 0 (3) -1

(2) $-\dfrac{1}{2}$ (4) $\dfrac{1}{2}$

27 Written in factored form, the binomial $a^2 - 16b^2$ is equivalent to

(1) $(a - 4b)(a + 4b)$ (3) $(a - 8b)(a + 8b)$

(2) $(a - 4b)(a - 4b)$ (4) $(a - 8b)(a - 8b)$

28 A spinner is divided into three equal regions, as shown in the diagram below. Ray spun the spinner six times and recorded his results: red, blue, blue, green, red, red.
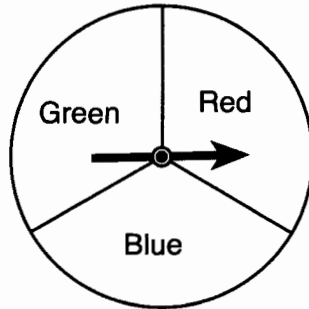
Which statement is true about the outcomes of blue in Ray's experiment?

(1) The empirical probability was less than the theoretical probability.

(2) The empirical probability was greater than the theoretical probability.

(3) The empirical and theoretical probabilities were equal.

(4) The empirical and theoretical probabilities were unrelated.

29 Liem is 6 feet 2 inches, Eli is 5 feet 9 inches, Faith is 6 feet, and Simon is 5 feet 4 inches. In *yards*, what is the total of their heights?

(1) $7\frac{3}{4}$ (3) $22\frac{15}{36}$

(2) $7\frac{16}{36}$ (4) $23\frac{1}{4}$

30 The sum of $\frac{x}{2a}$ and $\frac{2x}{3a}$ is

(1) $\frac{3x}{5a}$ (3) $\frac{7x}{6a}$

(2) $\frac{3x}{6a}$ (4) $\frac{2x^2}{6a^2}$

Part II

Answer all 3 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 Jim calculated the area of a triangle to be 51.75 cm². The actual area of the triangle is 53.24 cm² Find the relative error in Jim's calculation of the area to the *nearest thousandth*.

32 A 12 foot ladder is placed against a wall. The ladder makes an angle of 73° with the floor. Determine, to the *nearest tenth of a foot*, how high up the wall the ladder will reach.
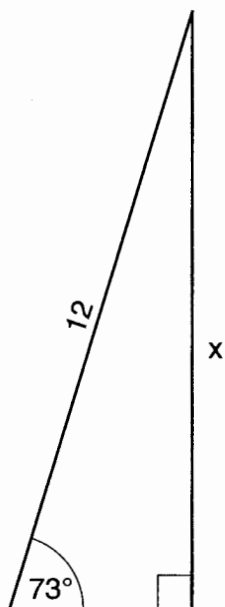
33 On the set of axes below, draw the graph of the function $y = 3^x$. Include the interval $-2 \leq x \leq 2$.

Answer all 3 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]

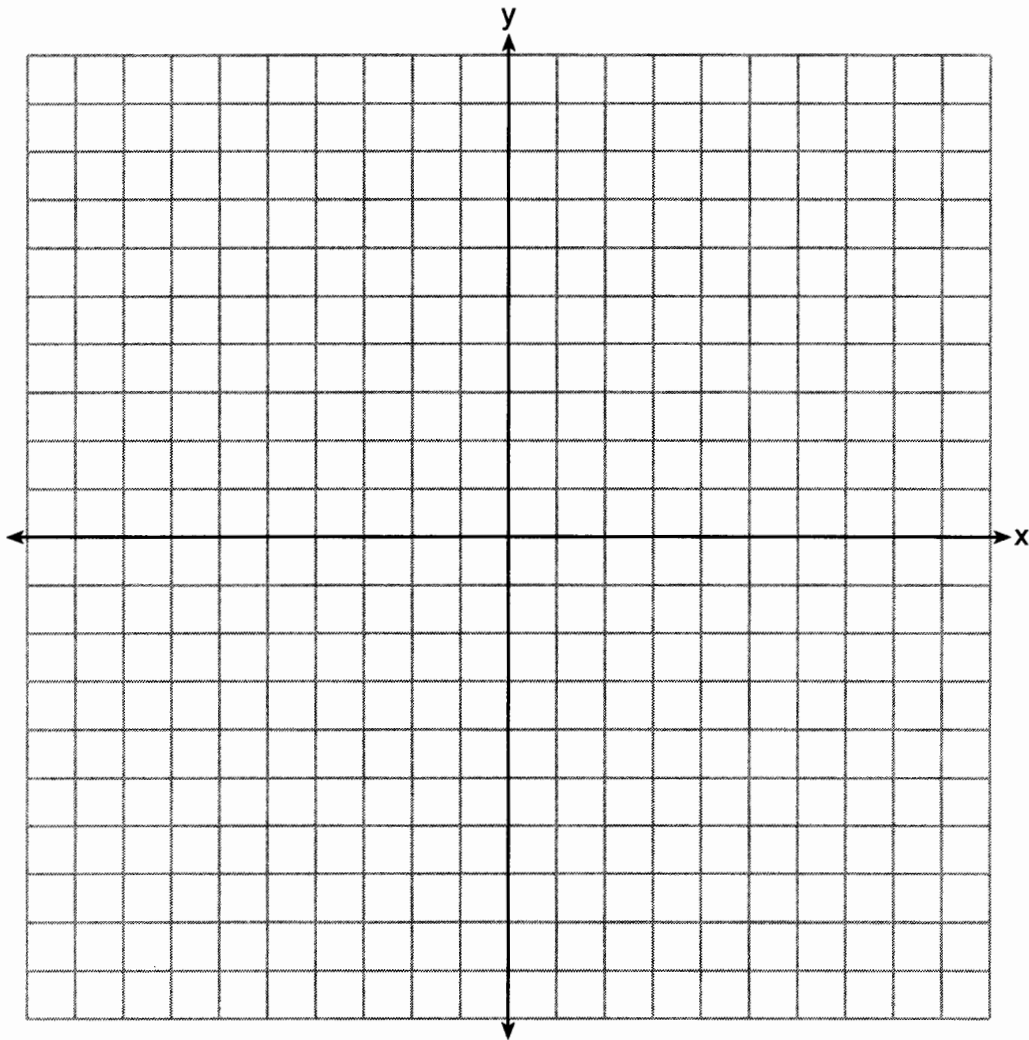
34 Ryan bought three bags of mixed tulip bulbs at a local garden store. The first bag contained 7 yellow bulbs, 8 red bulbs, and 5 white bulbs. The second bag contained 3 yellow bulbs, 11 red bulbs, and 6 white bulbs. The third bag contained 13 yellow bulbs, 2 red bulbs, and 5 white bulbs. Ryan combined the contents of these three bags into a single container. He randomly selected one bulb, planted it, and then randomly selected another and planted that one. Determine if it is more likely that Ryan planted a red bulb and then another red bulb, or planted a yellow bulb and then a white bulb. Justify your answer.

35 A particular jewelry box is in the shape of a rectangular prism. The box is advertised as having an interior length of 20.3 centimeters, an interior width of 12.7 centimeters, and an interior height of 10.2 centimeters. However, when a customer measures the interior of the box, she finds that the interior height is actually 6.3 centimeters. Upon further examination, she discovers that the bottom of the interior of the box lifts up to reveal a hidden compartment. Find the volume of this hidden compartment to the *nearest cubic centimeter*.

36 Solve algebraically for all values of x that satisfy the equation: $\dfrac{x}{x+4} = \dfrac{3}{x+2}$

Answer all 3 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 On the set of axes below, solve the following system of equations graphically for all values of x and y. State the coordinates of all solutions.

$$y = x^2 - 4x - 5$$
$$y + 3x = 1$$
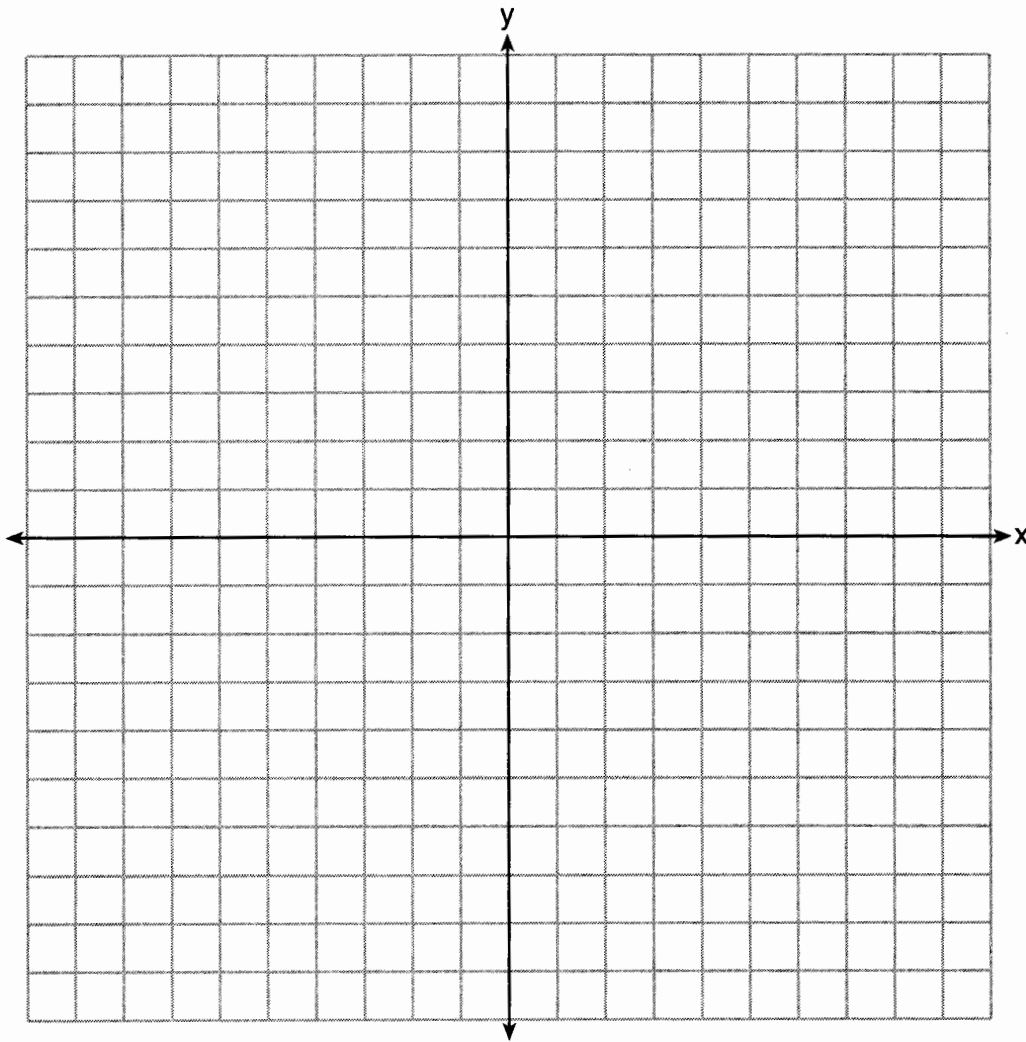
38 Express in simplest form: $\dfrac{x^2 + 5x + 6}{x^2 - x - 20} \div \dfrac{x^2 + x - 6}{2x - 10}$

39 The length of a rectangle is $(3\sqrt{8} + 2)$ and the width is $(2\sqrt{2} + 1)$.

Express the perimeter of the rectangle in simplest radical form.

Express the area of the rectangle in simplest radical form.

FOR TEACHERS ONLY

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SCORING KEY AND RATING GUIDE

Mechanics of Rating

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

Do *not* attempt to correct the student's work by making insertions or changes of any kind. In scoring the open-ended questions, 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. No one teacher is to score more than approximately one-third of the open-ended questions on a student's paper. Teachers may not score their own students' answer papers. On the student's separate answer sheet, for each question, record the number of credits earned and the teacher's assigned rater/scorer letter.

Schools are not permitted to rescore any of the open-ended questions on this exam after each question has been rated once, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.

Raters should record the student's scores for all questions and the total raw score on the student's separate answer sheet. Then the student's total raw score should be converted to a scale score by using the conversion chart that will be posted on the Department's web site at: http://www.p12.nysed.gov/assessment/ on Wednesday, June 1, 2016. Because scale scores corresponding to raw scores in the conversion chart may change from one administration to another, it is crucial that, for each administration, the conversion chart provided for that administration be used to determine the student's final score. The student's scale score should be entered in the box provided on the student's separate answer sheet. The scale score is the student's final examination score.

If the student's responses for the multiple-choice questions are being hand scored prior to being scanned, the scorer must be careful not to make any marks on the answer sheet except to record the scores in the designated score boxes. Marks elsewhere on the answer sheet will interfere with the accuracy of the scanning.

Part I

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

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

Updated information regarding the rating of this examination may be posted on the New York State Education Department's web site during the rating period. Check this web site at: http://www.p12.nysed.gov/assessment/ and select the link "Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents Examination period.

General Rules for Applying Mathematics Rubrics

I. General Principles for Rating

The rubrics for the constructed-response questions on the Regents Examination in Integrated Algebra are designed to provide a systematic, consistent method for awarding credit. The rubrics are not to be considered all-inclusive; it is impossible to anticipate all the different methods that students might use to solve a given problem. Each response must be rated carefully using the teacher's professional judgment and knowledge of mathematics; all calculations must be checked. The specific rubrics for each question must be applied consistently to all responses. In cases that are not specifically addressed in the rubrics, raters must follow the general rating guidelines in the publication *Information Booklet for Scoring the Regents Examinations in Mathematics*, use their own professional judgment, confer with other mathematics teachers, and/or contact the State Education Department for guidance. During each Regents Examination administration period, rating questions may be referred directly to the Education Department. The contact numbers are sent to all schools before each administration period.

II. Full-Credit Responses

A full-credit response provides a complete and correct answer to all parts of the question. Sufficient work is shown to enable the rater to determine how the student arrived at the correct answer.

When the rubric for the full-credit response includes one or more examples of an acceptable method for solving the question (usually introduced by the phrase "such as"), it does not mean that there are no additional acceptable methods of arriving at the correct answer. Unless otherwise specified, mathematically correct alternative solutions should be awarded credit. The only exceptions are those questions that specify the type of solution that must be used; e.g., an algebraic solution or a graphic solution. A correct solution using a method other than the one specified is awarded half the credit of a correct solution using the specified method.

III. Appropriate Work

Full-Credit Responses: The directions in the examination booklet for all the constructed-response questions state: "Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc." The student has the responsibility of providing the correct answer *and* showing how that answer was obtained. The student must "construct" the response; the teacher should not have to search through a group of seemingly random calculations scribbled on the student paper to ascertain what method the student may have used.

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

IV. Multiple Errors

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

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

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

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

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

Part II

For each question, use the specific criteria to award a maximum of 2 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(31) **[2]** 0.028, and correct work is shown, such as $\frac{53.24 - 51.75}{53.24}$.

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

or

[1] Appropriate work is shown, but one conceptual error is made, such as dividing by 51.75.

or

[1] $\frac{53.24 - 51.75}{53.24}$ or equivalent, but no further correct work is shown.

or

[1] Appropriate work is shown, but the answer is given as a percent.

or

[1] 0.028, 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]** 11.5, and correct work is shown.

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

or

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

or

[1] $\sin 73 = \frac{x}{12}$ is written, but no further correct work is shown.

or

[1] 11.5, 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]** A correct graph is drawn, and correct work is shown, such as showing a table of values or points plotted.

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

<p align="center">***or***</p>

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

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

Part III

For each question, use the specific criteria to award a maximum of 3 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(34)   **[3]** Red then red, and a justification is given such as comparing the probabilities.

    [2] Appropriate work is shown, but one computational error is made. An appropriate choice and justification are given.

<div align="center">or</div>

    [2] Appropriate work is shown to find $P(red\ then\ red) = \dfrac{420}{3540}$ or equivalent and $P(yellow\ then\ white) = \dfrac{368}{3540}$ or equivalent, but no choice or an incorrect choice is given.

    [1] Appropriate work is shown to find 420 and 368, the number of possible outcomes, but no further correct work is shown.

<div align="center">or</div>

    [1] Appropriate work is shown, but one conceptual error is made. An appropriate choice and justification are given.

<div align="center">or</div>

    [1] $P(red\ then\ red) = \dfrac{420}{3540}$ and $P(yellow\ then\ white) = \dfrac{368}{3540}$, but no work is shown.

<div align="center">or</div>

    [1] Appropriate work is shown, but two or more computational errors are made. An appropriate choice and justification are given.

    [0] Red then red, but no work is shown.

<div align="center">or</div>

    [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]** 1005, and correct work is shown.

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

or

[2] Appropriate work is shown to find the advertised volume of the interior, and the actual volume of the interior, but no further correct work is shown.

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

or

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

or

[1] Appropriate work is shown to find either the advertised volume or the actual volume, but no further correct work is shown.

or

[1] 1005, but no work is shown.

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

(36) **[3]** 4 and -3, and correct algebraic work is shown.

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

or

[2] Appropriate work is shown, but only one solution is stated.

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

or

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

or

[1] $x^2 - x - 12 = 0$ is written, but no further correct work is shown.

or

[1] 4 and -3, but a method other than algebraic is used.

or

[1] 4 and -3, but no work is shown.

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

Part IV

For each question, use the specific criteria to award a maximum of 4 credits. Unless otherwise specified, mathematically correct alternative solutions should be awarded appropriate credit.

(37)   **[4]** Both equations are graphed correctly, and $(3,-8)$ and $(-2,7)$ are stated.

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

or

[3] Both equations are graphed correctly, but only one point of intersection is stated.

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

or

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

or

[2] Both equations are graphed correctly, but the points of intersection are not stated or are stated incorrectly.

or

[2] $(3,-8)$ and $(-2,7)$, but a method other than graphic is used.

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

or

[1] One of the equations is graphed correctly, but no further correct work is shown.

or

[1] $(3,-8)$ and $(-2,7)$, but no work is shown.

[0] $(3,-8)$ or $(-2,7)$, 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.

(38)   **[4]** $\dfrac{2(x + 2)}{(x + 4)(x - 2)}$ or $\dfrac{2x + 4}{x^2 + 2x - 8}$, and correct work is shown.

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

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

<p align="center">or</p>

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

<p align="center">or</p>

     [2] All numerators and denominators are factored correctly, but no further correct work is shown.

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

<p align="center">or</p>

     [1] $\dfrac{2(x + 2)}{(x + 4)(x - 2)}$ or $\dfrac{2x + 4}{x^2 + 2x - 8}$, 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.

(39)　　**[4]** $6 + 16\sqrt{2}$ and $26 + 10\sqrt{2}$, and correct work is shown.

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

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

or

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

or

[2] Appropriate work is shown to find either the perimeter is $6 + 16\sqrt{2}$ or the area is $26 + 10\sqrt{2}$.

or

[2] The perimeter is $6 + 6\sqrt{8} + 4\sqrt{2}$ and the area is $26 + 3\sqrt{8} + 4\sqrt{2}$, but no further correct work is shown.

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

or

[1] $6 + 16\sqrt{2}$ and $26 + 10\sqrt{2}$, but no work is shown.

[0] The area and the perimeter are expressed as decimals, and no work is shown.

or

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

Map to Core Curriculum

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

Regents Examination in Integrated Algebra
June 2016
Chart for Converting Total Test Raw Scores to
Final Examination Scores (Scale Scores)

The *Chart for Determining the Final Examination Score for the June 2016 Regents Examination in Integrated Algebra* will be posted on the Department's web site at: http://www.p12.nysed.gov/assessment/ on Wednesday, June 1, 2016. Conversion charts provided for previous administrations of the Regents Examination in Integrated Algebra must NOT be used to determine students' final scores for this administration.

Online Submission of Teacher Evaluations of the Test to the Department

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

1. Go to http://www.forms2.nysed.gov/emsc/osa/exameval/reexameval.cfm.

2. Select the test title.

3. Complete the required demographic fields.

4. Complete each evaluation question and provide comments in the space provided.

5. Click the SUBMIT button at the bottom of the page to submit the completed form.

The State Education Department / The University of the State of New York

Regents Examination in Integrated Algebra – June 2016
Special Administration

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

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

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

Schools are not permitted to rescore any of the open-ended questions on this exam after each question has been rated once, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.

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