

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

MATHEMATICS A

Friday, June 16, 2000 — 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. Then turn to the last page of this booklet, which is the answer sheet for Part I. Fold the last page along the perforations and, slowly and carefully, tear off the answer sheet. Then fill in the heading of your answer sheet.

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. Any work done on this sheet of scrap graph paper will *not* be scored. All work should be written in pen, except graphs and drawings, which should be done in pencil.

This examination has four parts, with a total of 35 questions. You must answer all questions in this examination. Write your answers to the Part I multiple-choice questions on the separate answer sheet. Write your answers for the questions in Parts II, III, and IV directly in this booklet. Clearly indicate the necessary steps you take, 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 paper, 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 paper cannot be accepted if you fail to sign this declaration.

Notice...

A minimum of a scientific calculator, a straightedge (ruler), and a compass must be available for your use while taking this examination.

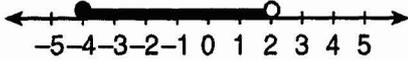
DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.

Part I

Answer all questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. Record your answers in the spaces provided on the separate answer sheet. [40]

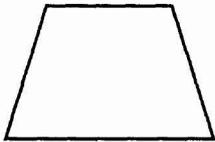
1 Which inequality is represented in the graph below?

Use this space for computations.



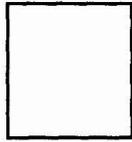
- (1) $-4 < x < 2$ (3) $-4 < x \leq 2$
(2) $-4 \leq x < 2$ (4) $-4 \leq x \leq 2$

2 Which geometric figure has one and only one line of symmetry?



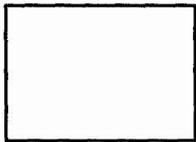
Isosceles trapezoid

(1)



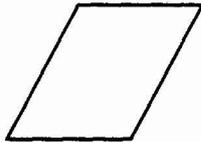
Square

(3)



Rectangle

(2)



Rhombus

(4)

3 Which number is rational?

- (1) π (3) $\sqrt{7}$
(2) $\frac{5}{4}$ (4) $\sqrt{\frac{3}{2}}$

4 Two numbers are in the ratio 2:5. If 6 is subtracted from their sum, the result is 50. What is the larger number?

- (1) 55 (3) 40
(2) 45 (4) 35

5 The quotient of $-\frac{15x^8}{5x^2}$, $x \neq 0$, is

- (1) $-3x^4$ (3) $-3x^6$
(2) $-10x^4$ (4) $-10x^6$

6 What is the inverse of the statement "If it is sunny, I will play baseball"?

Use this space for
computations.

- (1) If I play baseball, then it is sunny.
- (2) If it is not sunny, I will not play baseball.
- (3) If I do not play baseball, then it is not sunny.
- (4) I will play baseball if and only if it is sunny.

7 Which ordered pair is the solution of the following system of equations?

$$\begin{aligned}3x + 2y &= 4 \\ -2x + 2y &= 24\end{aligned}$$

- (1) (2,-1)
- (2) (2,-5)
- (3) (-4,8)
- (4) (-4,-8)

8 Which equation represents a circle whose center is (3,-2)?

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

9 The set of integers {3,4,5} is a Pythagorean triple. Another such set is

- (1) {6,7,8}
- (2) {6,8,12}
- (3) {6,12,13}
- (4) {8,15,17}

10 A truck travels 40 miles from point A to point B in exactly 1 hour. When the truck is halfway between point A and point B, a car starts from point A and travels at 50 miles per hour. How many miles has the car traveled when the truck reaches point B?

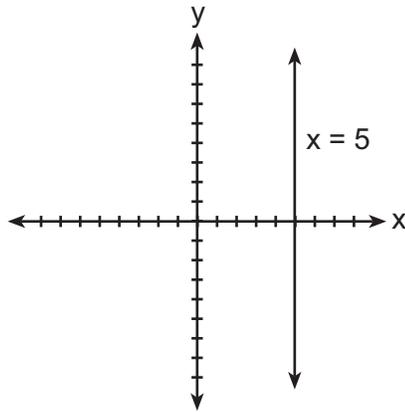
- (1) 25
- (2) 40
- (3) 50
- (4) 60

11 If $a \neq 0$ and the sum of x and $\frac{1}{a}$ is 0, then

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

12 The accompanying figure shows the graph of the equation $x = 5$.

Use this space for computations.



What is the slope of the line $x = 5$?

- (1) 5 (3) 0
(2) -5 (4) undefined
- 13 Which transformation does *not* always produce an image that is congruent to the original figure?
(1) translation (3) rotation
(2) dilation (4) reflection
- 14 If rain is falling at the rate of 2 inches per hour, how many inches of rain will fall in x minutes?
(1) $2x$ (3) $\frac{60}{x}$
(2) $\frac{30}{x}$ (4) $\frac{x}{30}$
- 15 The expression $(x - 6)^2$ is equivalent to
(1) $x^2 - 36$ (3) $x^2 - 12x + 36$
(2) $x^2 + 36$ (4) $x^2 + 12x + 36$
- 16 How many different five-digit numbers can be formed from the digits 1, 2, 3, 4, and 5 if each digit is used only once?
(1) 120 (3) 24
(2) 60 (4) 20
- 17 For five algebra examinations, Maria has an average of 88. What must she score on the sixth test to bring her average up to exactly 90?
(1) 92 (3) 98
(2) 94 (4) 100

18 The graphs of the equations $y = x^2 + 4x - 1$ and $y + 3 = x$ are drawn on the same set of axes. At which point do the graphs intersect?

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

Use this space for computations.

19 If $2x^2 - 4x + 6$ is subtracted from $5x^2 + 8x - 2$, the difference is

- (1) $3x^2 + 12x - 8$ (3) $3x^2 + 4x + 4$
(2) $-3x^2 - 12x + 8$ (4) $-3x^2 + 4x + 4$

20 What is the value of 3^{-2} ?

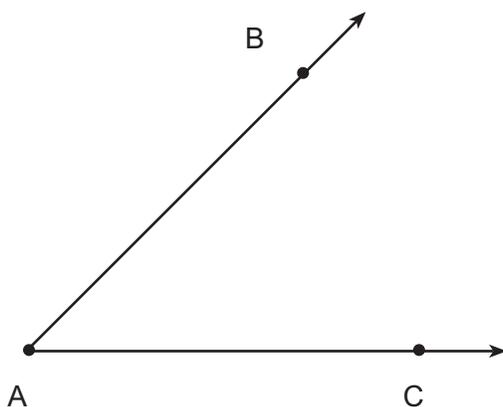
- (1) $\frac{1}{9}$ (3) 9
(2) $-\frac{1}{9}$ (4) -9
-

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. [10]

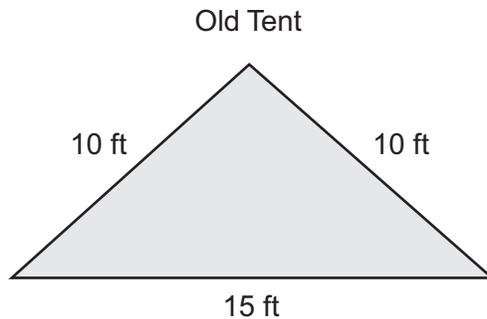
- 21 The formula for changing Celsius (C) temperature to Fahrenheit (F) temperature is $F = \frac{9}{5}C + 32$. Calculate, to the *nearest degree*, the Fahrenheit temperature when the Celsius temperature is -8 .

- 22 Using only a ruler and compass, construct the bisector of angle BAC in the accompanying diagram.



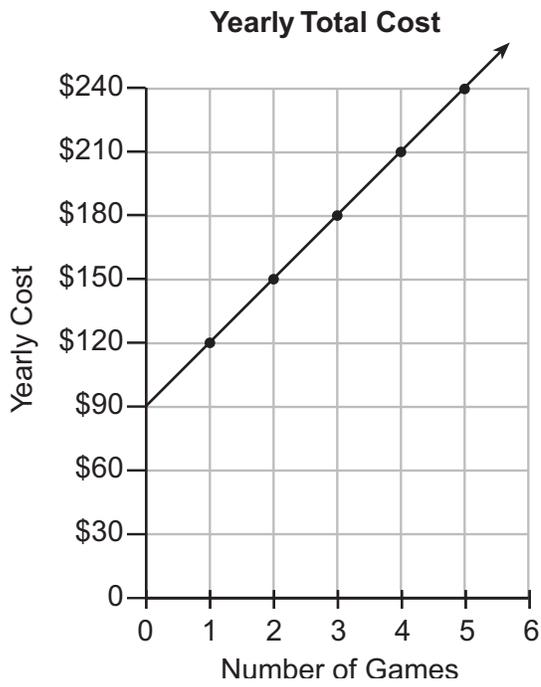
23 All seven-digit telephone numbers in a town begin with 245. How many telephone numbers may be assigned in the town if the last four digits do *not* begin or end in a zero?

24 The Rivera family bought a new tent for camping. Their old tent had equal sides of 10 feet and a floor width of 15 feet, as shown in the accompanying diagram.



If the new tent is similar in shape to the old tent and has equal sides of 16 feet, how wide is the floor of the new tent?

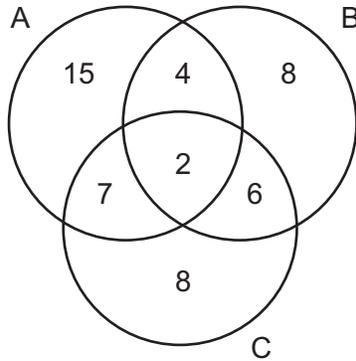
25 The accompanying graph represents the yearly cost of playing 0 to 5 games of golf at the Shadybrook Golf Course. What is the total cost of joining the club and playing 10 games during the year?



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. [15]

26 The accompanying Venn diagram shows the number of students who take various courses. All students in circle A take mathematics. All in circle B take science. All in circle C take technology. What percentage of the students take mathematics or technology?

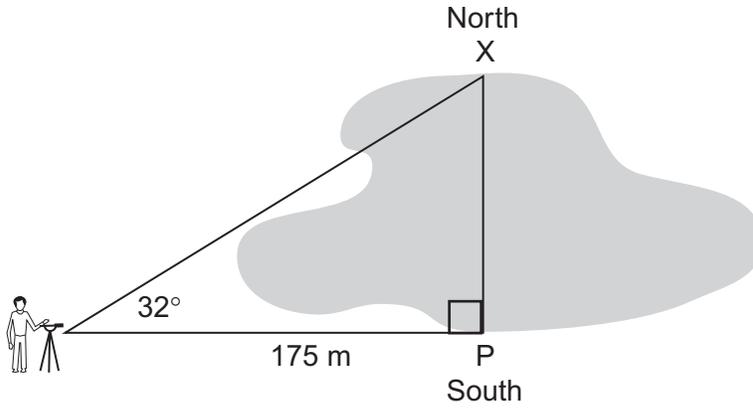


27 Hersch says if a triangle is an obtuse triangle, then it cannot also be an isosceles triangle. Using a diagram, show that Hersch is incorrect, and indicate the measures of all the angles and sides to justify your answer.

28 Tamika has a hard rubber ball whose circumference measures 13 inches. She wants to box it for a gift but can only find cube-shaped boxes of sides 3 inches, 4 inches, 5 inches, or 6 inches. What is the *smallest* box that the ball will fit into with the top on?

29 The distance from Earth to the imaginary planet Med is 1.7×10^7 miles. If a spaceship is capable of traveling 1,420 miles per hour, how many days will it take the spaceship to reach the planet Med? Round your answer to the *nearest day*.

- 30** A surveyor needs to determine the distance across the pond shown in the accompanying diagram. She determines that the distance from her position to point P on the south shore of the pond is 175 meters and the angle from her position to point X on the north shore is 32° . Determine the distance, PX , across the pond, rounded to the *nearest meter*.



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. [20]

- 31** The owner of a movie theater was counting the money from 1 day's ticket sales. He knew that a total of 150 tickets were sold. Adult tickets cost \$7.50 each and children's tickets cost \$4.75 each. If the total receipts for the day were \$891.25, how many of *each* kind of ticket were sold?

32 A treasure map shows a treasure hidden in a park near a tree and a statue. The map indicates that the tree and the statue are 10 feet apart. The treasure is buried 7 feet from the base of the tree and also 5 feet from the base of the statue. How many places are possible locations for the treasure to be buried? Draw a diagram of the treasure map, and indicate with an **X** *each* possible location of the treasure.

33 The scores on a mathematics test were 70, 55, 61, 80, 85, 72, 65, 40, 74, 68, and 84. Complete the accompanying table, and use the table to construct a frequency histogram for these scores.

Score	Tally	Frequency
40–49		
50–59		
60–69		
70–79		
80–89		

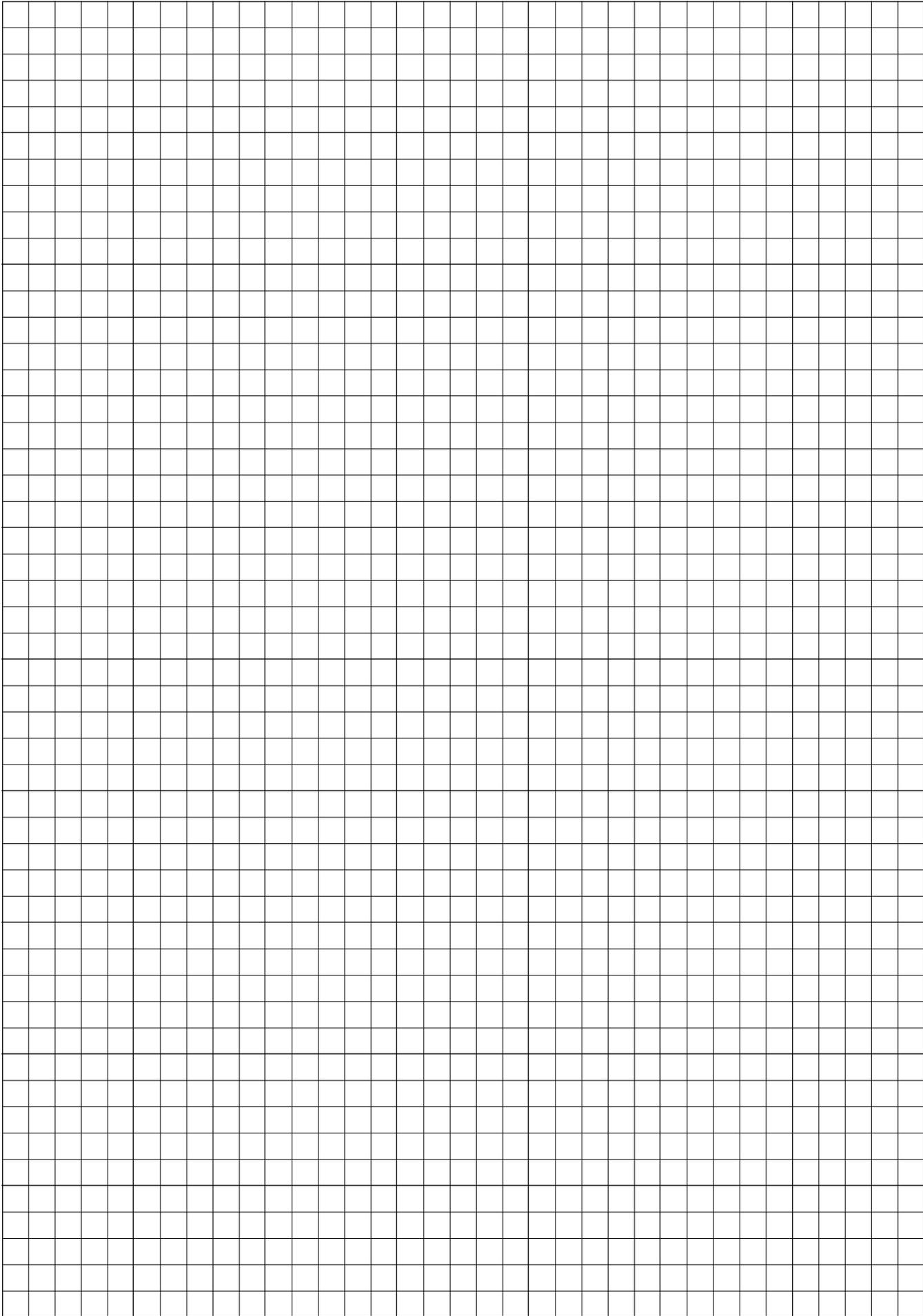
34 Paul orders a pizza. Chef Carl randomly chooses two different toppings to put on the pizza from the following: pepperoni, onion, sausage, mushrooms, and anchovies. If Paul will not eat pizza with mushrooms, determine the probability that Paul will *not* eat the pizza Chef Carl has made.

35 The area of the rectangular playground enclosure at South School is 500 square meters. The length of the playground is 5 meters longer than the width. Find the dimensions of the playground, in meters. [*Only an algebraic solution will be accepted.*]

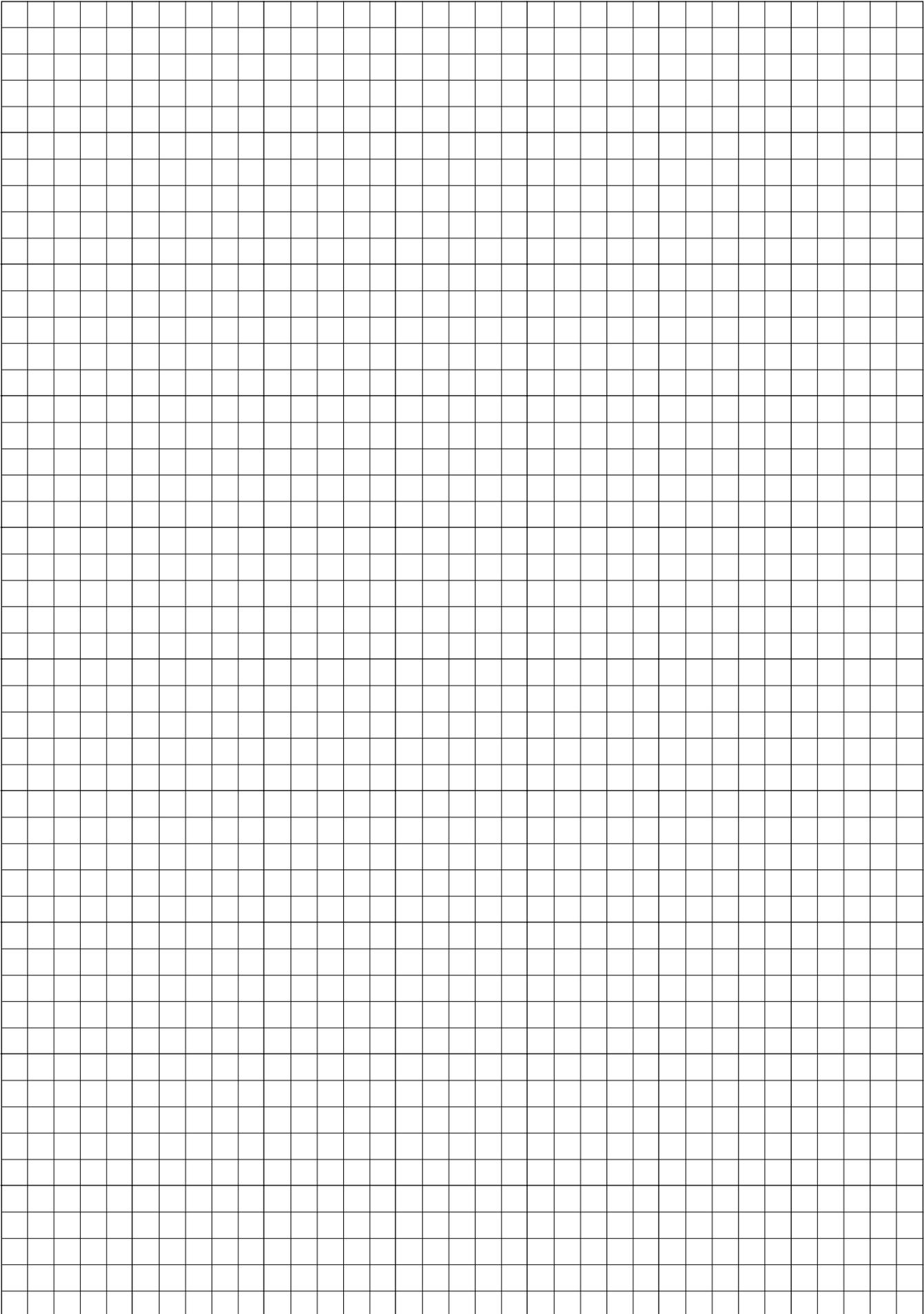
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The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

MATHEMATICS A

Friday, June 16, 2000 — 9:15 a.m. to 12:15 p.m., only

ANSWER SHEET

Pupil Sex: Male Female Grade

Teacher School

Your answers to Part I should be recorded on this answer sheet.

Part I

Answer all 20 questions in this part.

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

Your answers for Parts II, III, and IV should be written in the test booklet.

The declaration below should be signed when you have completed the examination.

I do hereby affirm, at the close of this examination, that I had no unlawful knowledge of the questions or answers prior to the examination and that I have neither given nor received assistance in answering any of the questions during the examination.

Signature

Tear Here

FOR TEACHERS ONLY

The University of the State of New York
REGENTS HIGH SCHOOL EXAMINATION

MATHEMATICS A

Friday, June 16, 2000 — 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 Mathematics A examination. More detailed information about scoring is provided in the publication *Information Booklet for Administering and Scoring the Regents Examination in Mathematics A*.

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

Part II

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

- (21) [2] 18 and correct substitution, $F = \frac{9}{5}(-8) + 32$, is shown.
- [1] A correct substitution method is shown, but one computational error is made.
- or**
- [1] The answer is not rounded to the nearest integer, such as 17.6 or $17\frac{3}{5}$.
- or**
- [1] The student substitutes -8 for F , but then solves appropriately for C .
- or**
- [1] The student substitutes $+8$ for C , but then solves appropriately for F .
- or**
- [1] 18 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] The arcs on the lines are clearly drawn, and the line bisecting the angle is clearly shown.
- [1] Only the angle bisection is shown. No arcs are drawn on the lines.
- or**
- [1] The arcs on the lines are drawn, but no angle bisection is shown.
- [0] The line is drawn but not in the middle. No compass was used.
- or**
- [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] 8,100 and appropriate work is shown, such as $9 \times 10 \times 10 \times 9$.
- [1] 10,000 but appropriate work is shown.
- or***
- [1] Appropriate work is shown, but the student multiplies incorrectly.
- or***
- [1] An appropriate pattern is shown, such as $9 \times 10 \times 10 \times 9$.
- or***
- [1] 8,100 but no work is shown.
- [0] 38 is shown.
- or***
- [0] The student attempts to use the counting principle, but adds.
- or***
- [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] 24 feet and appropriate work is shown, such as $\frac{10}{15} = \frac{16}{x}$ or $\frac{10}{16} = \frac{15}{x}$.
- [1] An appropriate proportion is shown, but an incorrect solution or no solution is found.
- or***
- [1] An incorrect proportion of equal difficulty is shown, but an appropriate solution for the proportion written is found.
- or***
- [1] 24 feet 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.

MATHEMATICS A – *continued*

(25) [2] \$390 or 390 and appropriate work is shown, such as a numerical table or the equation $y = 30x + 90$ or the expression $90 + 30N$.

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

or

[1] \$300 or 300 or a slope of 30 but appropriate work is shown.

or

[1] \$390 or 390 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 III

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

- (26) [3] 84% and appropriate work is shown, such as mathematics or technology = 42, the total = 50, and the percentage = 84%.
- [2] The correct numbers of students are shown, but the percentage is incorrect.
- or*
- [2] One error in computing the numbers of students is made, but the percentage is appropriate for those numbers.
- [1] Only one number is correct, such as 28 taking mathematics.
- or*
- [1] An appropriate percentage is shown for two incorrect values.
- or*
- [1] 84% 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.
- (27) [3] The student draws an obtuse triangle and all sides and all angles are correctly calculated, such as by using 120° , 30° , and 30° and sides 4, 4, and 10.
- [2] The student has the angles correctly indicated and the two congruent sides marked, but the length of the longest side is incorrect or is missing.
- or*
- [2] All sides are correctly marked, but the angles do not add to 180° , but an obtuse angle and two congruent angles are shown.
- [1] Only the angles are correctly shown.
- or*
- [1] Only the sides are correctly shown.
- [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

MATHEMATICS A – *continued*

(28) [3] 5-inch box and appropriate work is shown, including showing a diameter between 4 and 5.

[2] The correct diameter is shown, but the wrong box size is chosen.

or

[2] The correct radius is shown, but the 3-inch box is chosen.

[1] The correct diameter or radius is shown, but no box is chosen.

or

[1] An appropriate radius between 2 and 3 is shown, using the incorrect formula $A = \pi r^2$, and the 3-inch box is chosen.

or

[1] An appropriate diameter, using $A = \pi r^2$, is shown, but the appropriate box is chosen.

or

[1] An appropriate radius, using $A = \pi r^2$, is shown, but no box is chosen.

or

[1] The 5-inch box is chosen, 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.

(29) [3] 499 days and appropriate work is shown, such as $\frac{17,000,000 \text{ miles}}{1420 \frac{\text{miles}}{\text{hour}} \times 24 \frac{\text{hours}}{\text{day}}}$.

[2] Appropriate work is shown, but one computational error is made or the student incorrectly calculates 1.7×10^7 by one decimal place.

or

[2] Appropriate work is shown, but the answer is rounded incorrectly or is not rounded.

[1] $1.7 \times 10^7 = 17,000,000$ is shown.

or

[1] $\frac{1.7 \times 10^7}{1420} = 11,971.831$ hours is shown.

or

[1] 34,080 miles in 1 day is shown.

or

[1] 499 but no work is shown.

[0] The student does not understand scientific notation.

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] 109 meters and appropriate work is shown by using an appropriate trigonometric ratio, such as $\tan 32^\circ = \frac{y}{175}$.

[2] 109 meters but one rounding error is made.

or

[2] The student uses an appropriate trigonometric function with an inverted ratio, such as $\tan 32^\circ = \frac{175}{y}$, but completes the calculation appropriately, such as showing 280 meters.

[1] The student uses an incorrect trigonometric ratio but completes the calculation appropriately.

or

[1] The student uses an inverted tangent ratio and makes one computational or rounding error.

or

[1] The student uses the correct trigonometric ratio but solves it incorrectly or does not solve it at all.

or

[1] 109 meters but no work or explanation 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] 65 adult tickets and 85 student tickets and an appropriate equation is shown, such as $7.50x + 4.75(150 - x) = 891.25$, or any other acceptable method is used.

[3] Either 65 or 85 and appropriate work is shown.

or

[3] Appropriate work is shown, but one computational error is made that leads to two appropriate answers.

[2] An incorrect equation is shown, but it is solved appropriately for two answers.

or

[2] The correct equation is shown, but two computational errors are made.

[1] Appropriate work is shown, but no answer is found.

or

[1] 65 and 85 but no work is shown.

[0] Either 65 or 85 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.

- (32) [4] A correct diagram is drawn, two **X** points are marked, a numerical 2 is given for the places to dig, and appropriate work is shown.
- [3] The diagram is correct including two **X** points, but an incorrect answer or no answer is found.
- [2] One correct locus situation and one incorrect locus situation are drawn, but the answer is appropriate according to the diagram.
- or***
- [2] Each locus situation is correctly drawn, but no **X** points are marked, and no numerical answer is found.
- [1] Only one locus situation is correctly drawn and an incorrect conclusion or no conclusion is shown.
- 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.

- (33) [4] A correct table and histogram with appropriate labels and scales are shown, such as the table below.

SCORE	TALLY	FREQUENCY
40-49	/	1
50-59	/	1
60-69	///	3
70-79	///	3
80-89	///	3

- [3] An incorrect table is shown, but the histogram is appropriate, based on this table.

or

- [3] A correct table is shown, but one error is made on the histogram, such as using incorrect labels or no labels.

or

- [3] An incomplete table is shown, but the histogram is correct.

- [2] An incomplete table is shown, and the histogram is partially correct.

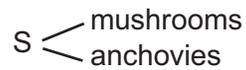
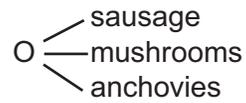
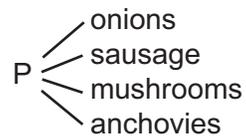
or

- [2] A correct table is shown, and a correct bar graph is made.

- [1] A correct table 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.

- (34) [4] $\frac{4}{10}$ and appropriate work is shown, such as the following illustration or any other correct method:



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

or

- [3] Appropriate work and complement $\frac{6}{10}$ are shown.

or

- [3] Appropriate work is shown, but the answer is incomplete.

- [2] ${}_5C_2$ and the work is appropriate but incomplete.

or

- [2] 10 but appropriate work is shown.

or

- [2] A correct sample space or tree diagram is shown.

- [1] Incorrect work leading to $0 \leq \text{fraction} \leq 1$ or $0 \leq \text{percent} \leq 100$ is shown.

or

- [1] $\frac{4}{10}$ 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] Width = 20 and length = 25 and an appropriate algebraic equation is shown, such as $x^2 + 5x - 500 = 0$.

[3] A correct quadratic equation is shown, but one error is made.

or

[3] A correct quadratic equation is shown, but solved for only one dimension.

[2] An appropriate solution is shown, but the student fails to reject the negative root and finds two sets of dimensions.

or

[2] The quadratic equation $(5x)(x) = 500$ is solved appropriately for both dimensions, $x = 10$ and $5x = 50$.

[1] The student writes only the correct quadratic equation or only the equation $x(x + 5) = 500$ or fails to solve the equation correctly.

or

[1] The student writes a linear equation from $x(x + 5) = 500$, such as $2x + 5x = 500$, but solves that equation appropriately.

or

[1] A correct equation is shown for the perimeter and solved appropriately.

or

[1] $(5x)(x) = 500$ is solved correctly for only one dimension.

or

[1] 20 and 25 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.

MATHEMATICS A

Map to Learning Standards

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

Regents Examination in Mathematics A

June 2000

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

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.