I

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

ALGEBRA I

Thursday, June 16, 2022 — 9:15 a.m. to 12:15 p.m., only

Student Name Steve Watson

School Name JMAP

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 37 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 for graphs and drawings, which should be done in pencil. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale.

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.

Part I

Answer all 24 questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For each statement or question, choose the word or expression that, of those given, best completes the statement or answers the question. Record your answers on your separate answer sheet. [48]

Use this space for computations.

1 Which correlation shows a causal relationship?

(1) The more minutes an athlete is on the playing field, the more goals he scores. Not always true

● The more gasoline that you purchase at the pump, the more you pay. Always true

(3) The longer a shopper stays at the mall, the more purchases she makes. Not always true

(4) As the price of a gift increases, the size of the gift box increases. Not always true

2 Given $f(x) = 3x - 5$, which statement is true?

(1) $f(0) = 0$

● $f(3) = 4$

(3) $f(4) = 3$

(4) $f(5) = 0$

$f(0) = 3(0) - 5$ (0, -5)

$f(3) = 3(3) - 5$ (3, 4)

$f(4) = 3(4) - 5$ (4, 7)

$f(5) = 3(5) - 5$ (5, 10)

3 At Benny's Café, a mixed-greens salad costs \$5.75. Additional toppings can be added for \$0.75 each. Which function could be used to determine the cost, $c(s)$, in dollars, of a salad with s additional toppings?

(1) $c(s) = 5.75s + 0.75$

● $c(s) = 0.75s + 5.75$

(3) $c(s) = 5.00s + 0.75$

(4) $c(s) = 0.75s + 5.00$

constant = 5.75

variable term = .75s

$C(s) = .75s + 5.75$

4 Which expression is equivalent to $x^2 + 5x - 6$?

(1) $(x + 3)(x - 2)$

(2) $(x + 2)(x - 3)$

(3) $(x - 6)(x + 1)$

● $(x + 6)(x - 1)$

1) $(x+3)(x-2) = x^2 - 2x + 3x - 6 = x^2 + x - 6$

2) $(x+2)(x-3) = x^2 - 3x + 2x - 6 = x^2 - x - 6$

3) $(x-6)(x+1) = x^2 + x - 6x - 6 = x^2 - 5x - 6$

4) $(x+6)(x-1) = x^2 - x + 6x - 6 = x^2 + 5x - 6$

5 Peter has \$100 to spend on drinks for his party. Bottles of lemonade cost \$2 each, and juice boxes cost \$0.50 each.

If x is the number of bottles of lemonade and y is the number of juice boxes, which inequality models this situation?

(1) $0.50x + 2y \leq 100$

● $2x + 0.50y \leq 100$

(2) $0.50x + 2y \geq 100$

(4) $2x + 0.50y \geq 100$

2x

50y

lemonade costs 2x

juice cost .50x

lemonade costs plus juice costs must be less than or equal to \$100.00

$2x + .50y \leq 100$

≤ less than or equal to

≥ greater than or equal to

Use this space for computations.

6 Which domain is most appropriate for a function that represents the number of items, $f(x)$, placed into a laundry basket each day, x, for the month of January?

~~(1)~~ integers no need for negative #s
● whole numbers
~~(3)~~ rational numbers no need for fractions
~~(4)~~ irrational numbers no need for π, e, and other never ending, non-repeating decimal #s

{0, 1, 2, 3, ...}

7 What is the solution to $\frac{3}{2}b + 5 < 17$?

● (3) $b < 18$
(1) $b < 8$
(2) $b > 8$
(4) $b > 18$

Given	$\frac{3}{2}b + 5 < 17$
M(2)	$3b + 10 < 34$
S(10)	$3b < 24$
D(3)	$b < 8$

solution

8 Which table of values represents an exponential relationship?

x	f(x)	
1	6	
2	9	+3
3	12	+3
4	15	+3
5	18	+3

Add 3 to previous

~~(1)~~

x	k(x)	
1	4	
2	16	×4
3	64	×4
4	256	×4
5	1024	×4

Multiply 4 times previous
$k(x) = 4^x$

●

x	h(x)	
1	2	
2	7	+5
3	12	+5
4	17	+5
5	22	+5

Add 5 to previous

~~(2)~~

x	p(x)	
1	–9.5	
2	–12	–2.5
3	–14.5	–2.5
4	–17	–2.5
5	–19.5	–2.5

Subtract 2.5 from previous

~~(4)~~

9 Which expression is *not* equivalent to $(5^{2x})^3$? → $(5^{2x})^3 = 5^{6x}$

~~(1)~~ $(5^x)^6 = 5^{6x}$
~~(2)~~ $(5^{3x})^2 = 5^{6x}$
● $(5^5)^x = 5^{5x}$
~~(4)~~ $(5^2)^{3x} = 5^{6x}$

Multiply the exponent inside the parentheses by the exponent outside the parentheses.

10 Which relation is a function?

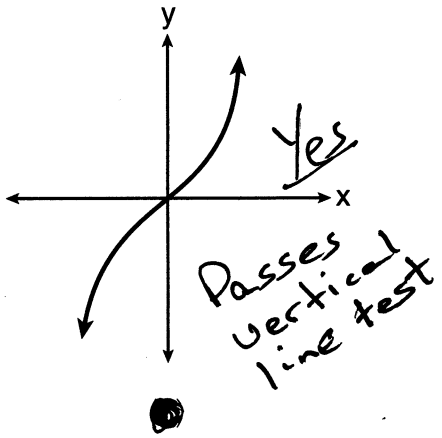
Use this space for computations.

A function has one and only one value of y for each value of x.

x	y
−1	1
0	0
1	1
1	2
2	4
3	9

No
2 values of y when x = 1

(1)



(3)

$$y = \begin{cases} x, & -1 < x \leq 2 \\ x^2, & 2 \leq x < 4 \end{cases}$$

No
When x = 1, y has 2 different values.

(2)

{(0,1), (2,3), (3,2), (3,4)}

(4) No
2 values of y when x = 3

11 The formula $Ax + By = C$ represents the equation of a line in standard form. Which expression represents y in terms of A, B, C, and x?

Isolate y

Given	$Ax + By = C$
Subtract (Ax)	$By = C - Ax$
Divide (B)	$y = \frac{C - Ax}{B}$

(3) $\frac{C-A}{x+B}$

(2) $\frac{C-A}{Bx}$

(4) $\frac{C-B}{Ax}$

12 What are the zeros of $f(x) = (2x - 4)(3x + 4)$?

$2x - 4 = 0$ | $3x + 4 = 0$

$2x = 4$ | $3x = -4$

$x = 2$ | $x = \frac{-4}{3}$

(3) $\left\{-2, \frac{4}{3}\right\}$

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

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

13 Joe has dimes and nickels in his piggy bank totaling \$1.45. The number of nickels he has is 5 more than twice the number of dimes, d. Which equation could be used to find the number of dimes he has?

Let n = # of nickles
Let d = # of dimes

Step 1 Write 2 equations

Eq. 1 $n = 2d + 5$

Eq. 2 $.05n + .10d = 1.45$

Step 2 Substitute $2d+5$ from Eq. 1 for n in Eq. 2

$.05(2d+5) + .10d = 1.45$

(3) $d + (2d + 5) = 1.45$

(4) $(d - 5) + 2d = 1.45$

Use this space for computations.

14 Donna and Andrew compared their math final exam scores from grade 8 through grade 12. Their scores are shown below.

Donna	
8th	90
9th	92
10th	87
11th	94
12th	95

Andrew	
8th	78
9th	96
10th	87
11th	94
12th	93

Use one variable stats function of graphing calculator.

	Donna	Andrew
Mean $\bar{x}$	91.6	89.6
Median	92	93
Q_1	88.5	82.5
Q_3	94.5	95
IQR	6	12.5

Which statement about their final exam scores is correct?

(1) Andrew has a higher mean than Donna. False

(2) Donna and Andrew have the same median. False

● (3) Andrew has a larger interquartile range than Donna. True

(4) The 3rd quartile for Donna is greater than the 3rd quartile for Andrew. False

15 The first term in a sequence is 5 and the fifth term is 17. What is the common difference?

(1) 2.4

● (3) 3

(2) 12

(4) 4

Step 1 Create a table

Term #	1	2	3	4	5
Value	5				17

Step 2. Fill in the blanks (with equal intervals between values)

1	2	3	4	5
5	8	11	14	17

Step 3. Observe that the common difference = 3

16 A quadratic function and a linear function are graphed on the same set of axes. Which situation is *not* possible?

(1) The graphs do not intersect. ✓ possible

(2) The graphs intersect in one point. ✓ possible

(3) The graphs intersect in two points. ✓ possible

(4) The graphs intersect in three points. ✗ not possible

17 The expression $(m - 3)^2$ is equivalent to

(1) $m^2 + 9$

● (3) $m^2 - 6m + 9$

(2) $m^2 - 9$

(4) $m^2 - 6m - 9$

Strategy A - Use FOIL

$(m-3)(m-3)$

$m^2 - 3m - 3m + 9$

$m^2 - 6m + 9$

Strategy B - Use Box Method

	m	-3
m	m^2	$-3m$
-3	$-3m$	$+9$

$\Rightarrow m^2 - 6m + 9$

18 Mrs. Rossano asked her students to explain why $(3,-4)$ is a solution to $2y + 3x = 1$. Three student responses are given below.

Andrea: True
"When the equation is graphed on a calculator, the point can be found within its table."

Bill: True
"Substituting $x = 3$ and $y = -4$ into the equation makes it true."

Christine: True
"The graph of the line passes through the point $(3,-4)$."

Which students are correct?

(1) Andrea and Bill, only
(2) Bill and Christine, only
(3) Andrea and Christine, only
● Andrea, Bill, and Christine

Use this space for computations.

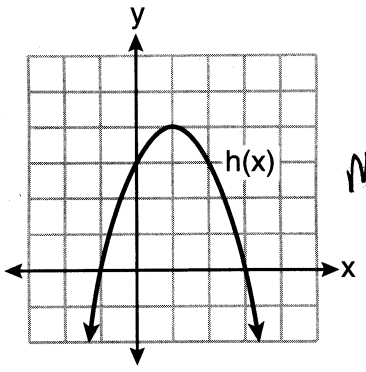
Calculator input
$2y+3x=1$
$2y = -3x+1$
$y = \frac{-3x+1}{2}$
Use for Andrea and Christine

Bill's approach
$2y+3x=1$
$2(-4)+3(3)=1$
$-8+9=1$
$1=1$ ✓

19 Four quadratic functions are shown below.

x	f(x)
−4	−4
−2	4
−1	5
0	4
2	−4

Max = 5



Max = 4

$g(x) = -(x-4)^2 + 5$
Max = 5

$j(x) = -\frac{1}{2}x^2 + x + 4$
Max = 4.5

Use graphing calculator to find max of g(x) and j(x).

Which statement is true?

~~(1)~~ The maximum of $f(x)$ is less than the maximum of $j(x)$. False
~~(2)~~ The maximum of $g(x)$ is less than the maximum of $h(x)$. False
● The maximum of $f(x)$ equals the maximum of $g(x)$. True
~~(4)~~ The maximum of $h(x)$ equals the maximum of $j(x)$. False

highest exponent = 6

Use this space for computations.

20 An example of a sixth-degree polynomial with a leading coefficient of seven and a constant term of four is

(1) $6x^7 - x^5 + 2x + 4$

(3) $7x^4 + 6 + x^2$

● $4 + x + 7x^6 - 3x^2$

(4) $5x + 4x^6 + 7$

Constant ↑ ↑ sixth degree with leading coefficient of 7.

↳ the term with an exponent of 6 must have a coefficient of 7

21 In the equation $A = P(1 \pm r)^t$, A is the total amount, P is the principal amount, r is the annual interest rate, and t is the time in years. Which statement correctly relates information regarding the annual interest rate for each given equation?

(1) For $A = P(1.025)^t$, the principal amount of money is increasing at a 25% interest rate. False. $r = 2.5\%$

(2) For $A = P(1.0052)^t$, the principal amount of money is increasing at a 52% interest rate. False. $r = 0.52\%$

● For $A = P(0.86)^t$, the principal amount of money is decreasing at a 14% interest rate. True

(4) For $A = P(0.68)^t$, the principal amount of money is decreasing at a 68% interest rate. False. $r = -32\%$

Strategy: Solve for decimal value of r using values in parentheses. Then, convert to percent.

1) $1 + r = 1.025$, $r = .025$, $r = 2.5\%$

2) $1 + r = 1.0052$, $r = .0052$, $r = .52\%$

3) $1 + r = 0.86$, $r = -.14$, $r = -14\%$

4) $1 + r = 0.68$, $r = -.32$, $r = -32\%$

22 It takes Tim 4.5 hours to run 50 kilometers. Which expression will allow him to change this rate to minutes per mile?

$\frac{\text{minutes}}{\text{miles}} = \frac{\text{min}}{\text{mi}}$

● $\frac{4.5\,\text{hr}}{50\,\text{km}} \cdot \frac{1.609\,\text{km}}{1\,\text{mi}} \cdot \frac{60\,\text{min}}{1\,\text{hr}}$

(3) $\frac{50\,\text{km}}{4.5\,\text{hr}} \cdot \frac{1\,\text{mi}}{1.609\,\text{km}} \cdot \frac{1\,\text{hr}}{60\,\text{min}}$

(2) $\frac{50\,\text{km}}{4.5\,\text{hr}} \cdot \frac{1\,\text{mi}}{1.609\,\text{km}} \cdot \frac{60\,\text{min}}{1\,\text{hr}}$

(4) $\frac{4.5\,\text{hr}}{50\,\text{km}} \cdot \frac{1\,\text{mi}}{1.609\,\text{km}} \cdot \frac{60\,\text{min}}{1\,\text{hr}}$

Strategy: Use cancellation of units to find $\frac{\text{min}}{\text{mi}}$

23 When the equation $\frac{x-1}{2} - \frac{a}{4} = \frac{3a}{4}$ is solved for x in terms of a, the solution is

(1) $\frac{3a}{2} + 1$

(3) $\frac{4a+1}{2}$

(2) $a + 1$

● $2a + 1$

Given	$\frac{x-1}{2a} - \frac{a}{4} = \frac{3a}{4}$
A(a/4)	$\frac{x-1}{2a} = \frac{3a}{4} + \frac{a}{4}$
Simplify + Cancel	$\frac{x-1}{2a} = \frac{4a}{4}$
M(2a)	$x - 1 = 2a$
A(1)	$x = 2a + 1$

24 If a sequence is defined recursively as $a_1 = -3$ and $a_n = -3a_{n-1} - 2$, then a_4 is

(1) -107

(3) 55

(2) -95

● 67

Term	1	2	3	4
Value	-3	7	-23	67

Strategy: Build a table and use the value of each term to find the next term's value.

Part II

Answer all 8 questions in this part. Each correct answer will receive 2 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. 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. [16]

25 Is the product of $\sqrt{1024}$ and -3.4 rational or irrational? Explain your answer.

Rational

$\sqrt{1024} = 32$, which is a rational number, because it can be expressed as $\frac{32}{1}$.

-3.4 is also a rational number, because it can be expressed as $\frac{-34}{10}$.

A rational number is any number that can be expressed as the ratio of two integers.

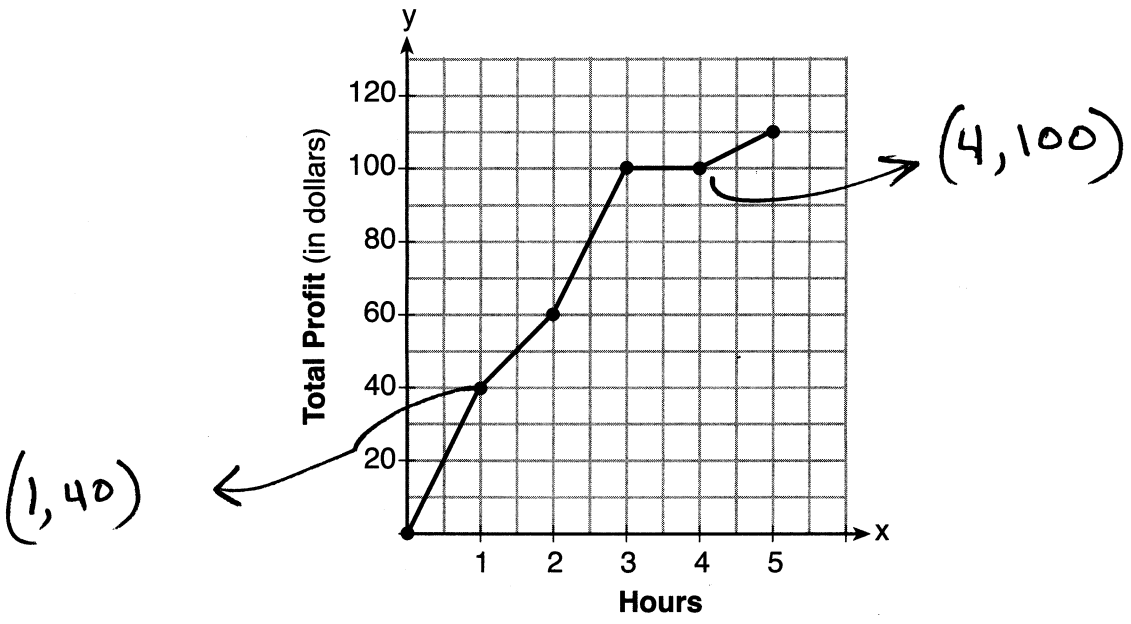
The product of two rational numbers is always rational.

26 Describe the transformations performed on the graph of $f(x) = x^2$ to obtain the graph of $g(x)$ when $g(x) = (x - 3)^2 - 4$.

Each point on $f(x)$ moves 3 units to the right and 4 units down.

- $(x-3)^2$ moves the graph 3 units right on the x-axis.
- -4 moves the graph 4 units down on the y-axis.

27 The total profit earned at a garage sale during the first five hours is modeled by the graph shown below.



Determine the average rate of change, in dollars per hour, over the interval $1 \leq x \leq 4$.

The average rate of change over any interval is the slope of the straight line connecting the endpoints of the interval.

Strategy: Use Slope Formula

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{100 - 40}{4 - 1} = \frac{60}{3} = \frac{20 \text{ dollars}}{1 \text{ hour}}$$

$20.00 per hour answer

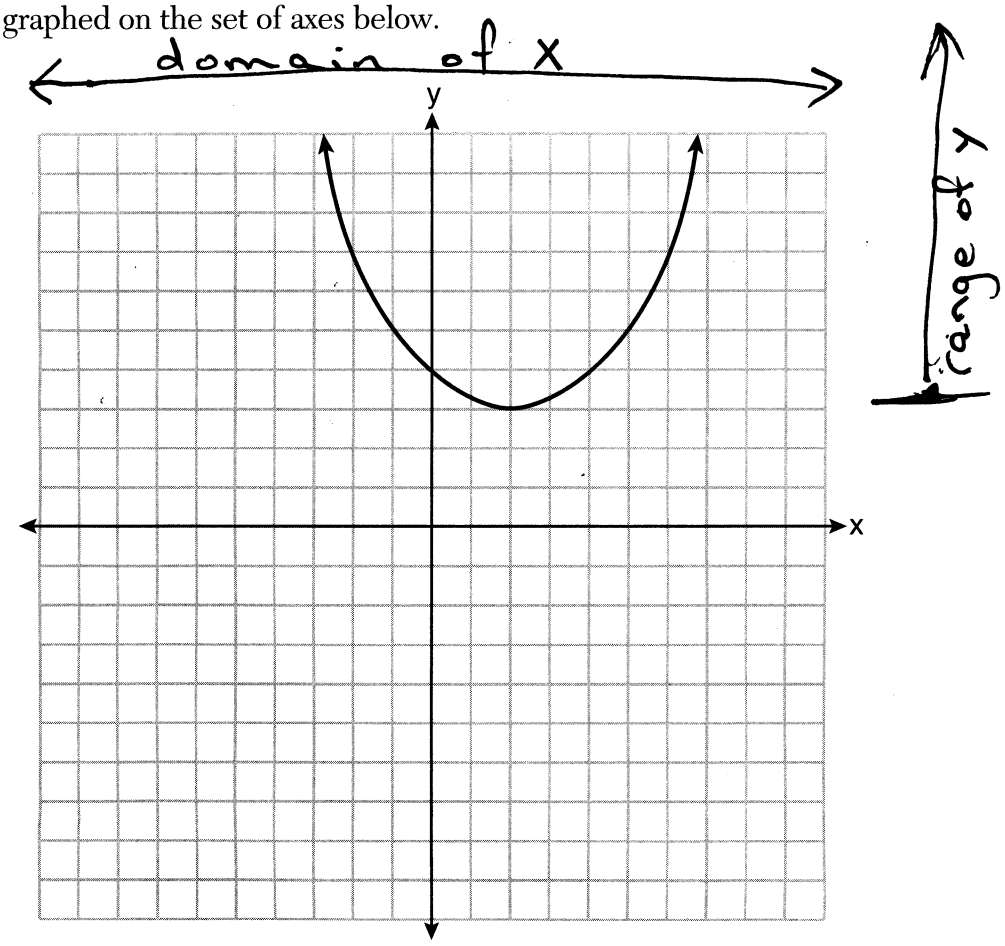
28 Subtract $3x(x - 2y)$ from $6(x^2 - xy)$ and express your answer as a monomial.

$6(x^2 - xy) = 6x^2 - 6xy$

subtract $3x(x - 2y) = 3x^2 - 6xy$

$3x^2$

29 A function is graphed on the set of axes below.



State the domain of this function.

All real #s

State the range of this function.

$y \geq 3$

30 Solve $6x^2 + 5x - 6 = 0$ algebraically for the exact values of x.

Strategy A
Complete the Square

D(6)

$$6x^2 + 5x - 6 = 0$$

$$x^2 + \frac{5}{6}x - 1 = 0$$

$$x^2 + \frac{5}{6}x = 1$$

$$x^2 + \frac{5}{6}x + \left(\frac{5}{12}\right)^2 = 1 + \left(\frac{5}{12}\right)^2$$

$$\left(x + \frac{5}{12}\right)^2 = \frac{144}{144} + \frac{25}{144}$$

$$\left(x + \frac{5}{12}\right)^2 = \frac{169}{144}$$

$$x + \frac{5}{12} = \pm\frac{13}{12}$$

$$x = \frac{-5 \pm 13}{12}$$

$x = \boxed{\frac{8}{12}}$ and $x = \frac{-18}{12} = \boxed{\frac{-3}{2}}$

Strategy B
Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-5 \pm \sqrt{25 - 4(6)(-6)}}{2(6)}$$

$$x = \frac{-5 \pm \sqrt{169}}{12}$$

$$x = \frac{-5 \pm 13}{12}$$

$x = \frac{8}{12} = \boxed{\frac{2}{3}}$ and $x = \frac{-18}{12} = \boxed{\frac{-3}{2}}$

Answer Either Way $\boxed{x = \frac{2}{3} \text{ and } x = \frac{-3}{2}}$

31 Factor the expression $x^4 - 36x^2$ completely.

$X^4 - 36X^2$

This is a difference of perfect squares

Strategy A

$a^2 - b^2 = (a+b)(a-b)$

$(X^2+6X)(X^2-6X)$

$(X)(X+6)(X)(X-6)$

$\boxed{(X)(X)(X+6)(X-6)}$

Strategy B

$X^4 - 36X^2$

$X^2(X^2-36)$

$\boxed{(X)(X)(X+6)(X-6)}$

32 Determine the exact values of x for $x^2 - 8x - 5 = 0$ by completing the square.

$$x^2 - 8x - 5 = 0$$

$$x^2 - 8x = 5$$

$$x^2 - 8x + (-4)^2 = 5 + (-4)^2$$

$$(x-4)^2 = 5 + 16$$

$$(x-4)^2 = 21$$

$$x - 4 = \pm\sqrt{21}$$

Answer $\boxed{x = 4 \pm \sqrt{21}}$

Check Using Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{8 \pm \sqrt{64 - 4(1)(-5)}}{2(1)}$$

$$x = \frac{8 \pm \sqrt{84}}{2}$$

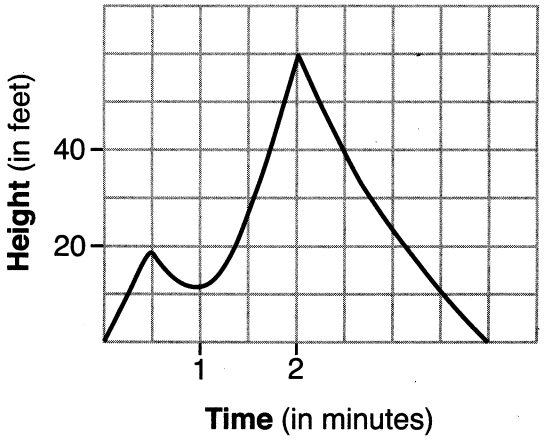
$$x = \frac{8}{2} \pm \frac{\sqrt{84}}{\sqrt{4}}$$

$$x = 4 \pm \sqrt{21}$$ ✓

Part III

Answer all 4 questions in this part. Each correct answer will receive 4 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. 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. [16]

33 The graph below models the height of Sam's kite over a period of time.



Explain what the zeros of the graph represent in the context of the situation.

During launching and landing, the kite had zero height.

State the time intervals over which the height of the kite is increasing.

$0 < t < .5$

and

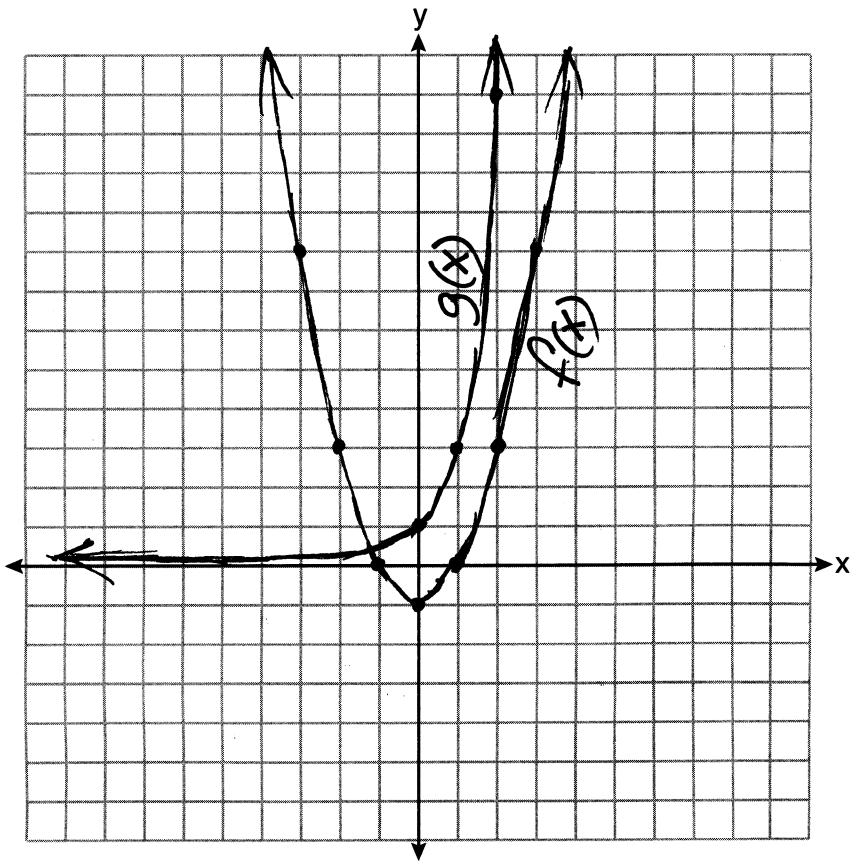
$1 < t < 2$

State the maximum height, in feet, that the kite reaches.

60 feet

Strategy: Input both functions in graphing calculator, then graph.

34 On the set of axes below, graph $f(x) = x^2 - 1$ and $g(x) = 3^x$.



Based on your graph, for how many values of x does $f(x) = g(x)$? Explain your reasoning.

One value

- On the left side of the graph (quadrant II), g(x) approaches zero as x approaches $-\infty$, while f(x) approaches $+\infty$ as x approaches $-\infty$.
- On the right side of the graph, the exponential equation g(x) has an increasingly steeper slope than the quadratic equation f(x).

35 An insurance agent is looking at records to determine if there is a relationship between a driver's age and percentage of accidents caused by speeding. The table below shows his data.

Age (x)	17	18	21	25	30	35	40	45	50	55	60	65
Percentage of Accidents Caused by Speeding (y)	49	49	48	38	31	33	24	25	16	10	5	6

State the linear regression equation that models the relationship between the driver's age, x, and the percentage of accidents caused by speeding, y. Round all values to the *nearest hundredth*.

Strategy: Use linear regression function in a graphing calculator. Be sure to turn diagnostics on to get correlation coefficient.

$y = -.96x + 64.74$

State the value of the correlation coefficient to the *nearest hundredth*. Explain what this means in the context of the problem.

$r = -.98$

There is a strong negative correlation between a driver's age and the percentage of accidents caused by speeding.

Step 1. Transform equations for calculator input.

36 Solve the system of inequalities graphically on the set of axes below. Label the solution set S.

Y_1 $2x + 3y < 9$ (dotted line)

Y_2 $2y \geq 4x + 6$ (solid line)

$2x+3y<9$

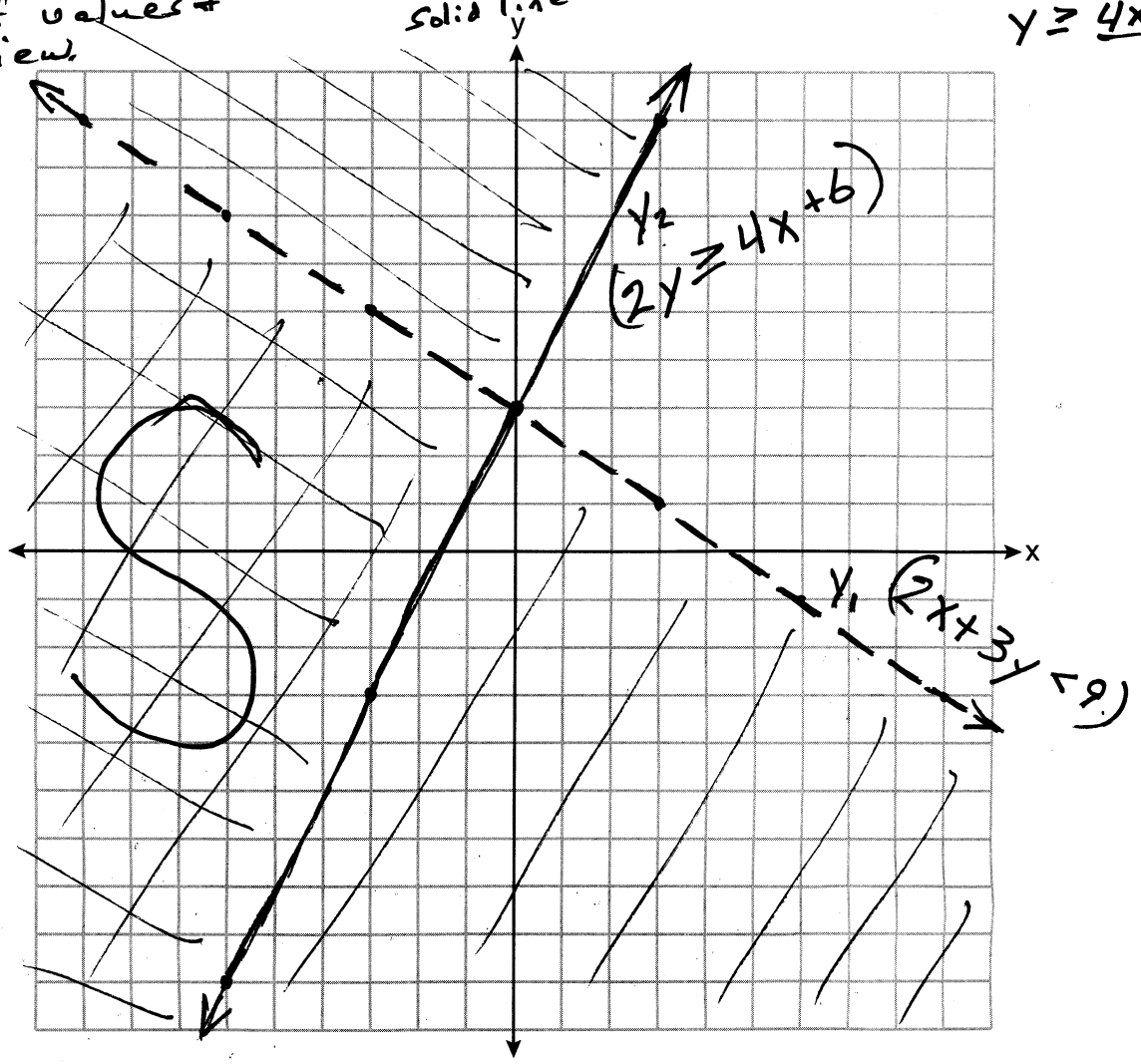
$3y<9-2x$

$y<\frac{9-2x}{3}$ Y_1

$2y \geq 4x+6$

$y \geq \frac{4x+6}{2}$ Y_2

Step 2. Sketch graph from calculator table of values + graph view.



Determine if the point (0,3) is a solution to this system of inequalities. Justify your answer.

No (0,3) does not solve $2x+3y<9$

$2(0)+3(3)<9$

$9<9$ False

A solution to a system of equations or inequalities must satisfy all equations or inequalities in the system.

Part IV

Answer the question in this part. A correct answer will receive 6 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided to determine your answer. Note that diagrams are not necessarily drawn to scale. 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]

Eq. 1

37 At an amusement park, the cost for an adult admission is a, and for a child the cost is c. For a group of six that included two children, the cost was $325.94. For a group of five that included three children, the cost was $256.95. All ticket prices include tax. Eq. 2

Write a system of equations, in terms of a and c, that models this situation.

Eq. 1 $4a + 2c = 325.94$

Eq. 2 $2a + 3c = 256.95$

Let a represent cost of adult ticket.
Let c represent cost of child ticket.

Use your system of equations to determine the exact cost of each type of ticket algebraically.

Strategy: Use elimination method.

2 times Eq. 2 $4a + 6c = 513.90$

Subtract Eq 1 $4a + 2c = 325.94$

$4c = 187.96$

$c = \$46.99$

Use substitution in Eq. 2 to find cost of adult ticket.

$2a + 3c = 256.95$

$2a + 3(46.99) = 256.95$

$2a + 140.97 = 256.95$

$2a = 256.95 - 140.97$

$2a = 115.98$

$a = \$57.99$

Determine the cost for a group of four that includes three children.

$1a + 3c = \text{Group Cost}$

$1(57.99) + 3(46.99) = \text{Group Cost}$

$57.99 + 140.97 = \text{Group Cost}$

$\$198.96 = \text{Group Cost}$

Check both Eq1 + Eq 2

Eq 1 $4a + 2c = 329.94$

✓ $4(57.99) + 2(46.99) = 325.94$

Eq. 2 $2a + 3c = 256.95$

✓ $2(57.99) + 3(46.99) = 256.95$