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Algebra 1 Final Exam Study Guide

Multiple Choice
Identify the choice that best completes the statement or answers the question.

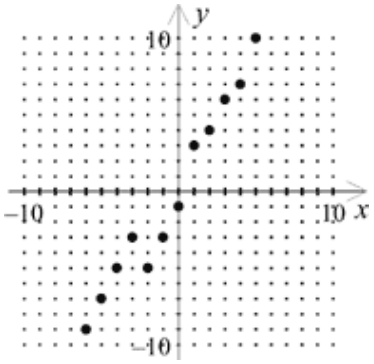
1. Write an equation, in point-slope form, of the line that passes through the point $(-9, -3)$ and has the slope $\frac{1}{2}$.
   a. $y+3=\frac{1}{2}(x+9)$
   b. $y+9=\frac{1}{2}(x+3)$
   c. $y-9=\frac{1}{2}(x-3)$
   d. $y-3=\frac{1}{2}(x-9)$

2. Write an equation in point-slope form of the line that passes through the points $(5, -1)$ and $(-6, -4)$.
   a. $y-5=\frac{3}{11}(x+1)$
   b. $y+1=\frac{11}{3}(x-5)$
   c. $y-5=\frac{11}{3}(x+1)$
   d. $y+1=\frac{3}{11}(x-5)$

3. Write an equation of the line that passes through $(-5, -3)$ and is parallel to the line $y=x-5$.
   a. $y=-5x+2$
   b. $y=x+2$
   c. $y=x-5$
   d. $y=-5x-5$

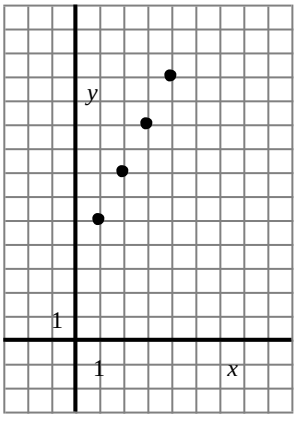
4. Write an equation of the line that goes through the point $(10, 8)$ and is perpendicular to the line $y=5x+6$.
   a. $y=\frac{1}{5}x+10$
   b. $y=-5x-58$
   c. $y=-\frac{1}{5}x+10$
   d. $y=5x-42$

5. What type of relationship is shown by the scatter plot?



   a. relatively no correlation
   b. weak negative correlation
   c. strong negative correlation
   d. strong positive correlation

6. Which equation matches the scatter plot?



   a. $y=2x+3$
   b. $y=2x-3$
   c. $y=3-2x$
   d. $y=2-2x$

7. Min is making home-made cards to send to friends and family and to sell at the local craft fair. This scatter plot shows the total number of cards he had made after each hour he worked on the task.

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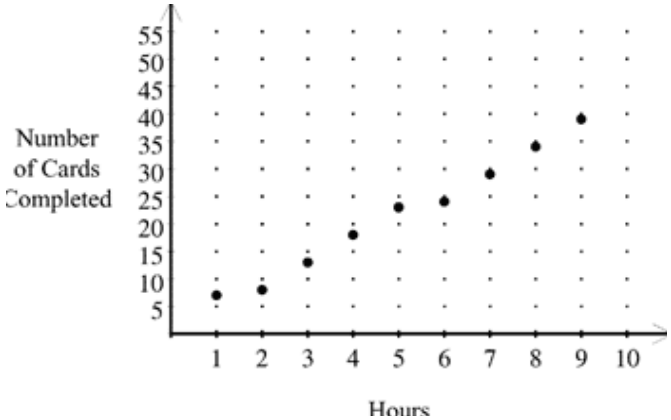
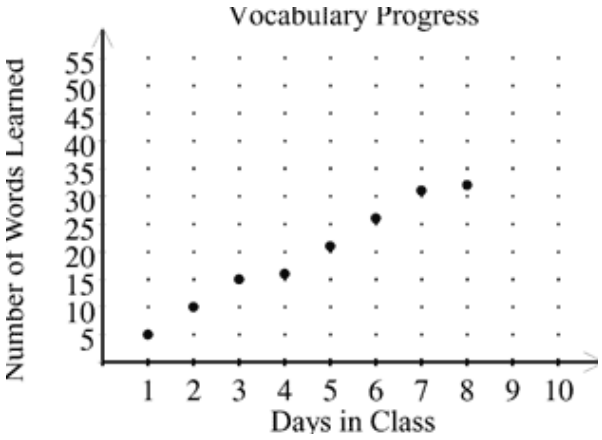


Using this information, what is the best prediction of the number of cards Min can make in 11 hours?

a. 24 b. 34 c. 59 d. 44

8. Ramon is learning a foreign language. The scatter plot shows the total number of vocabulary words Ramon has learned at the end of each of his first eight days in class.



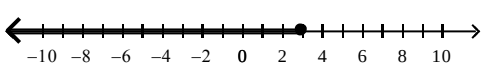
Assuming the trend shown by the scatter plot continues, which is the best prediction of the number of words Ramon will have learned by his 10th day in class?

a. 40
b. 25
c. 50
d. 55

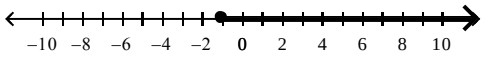
Solve the inequality. Then graph its solution.

9. $y + 2 \leq 1$

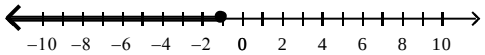
a. $y \leq 3$



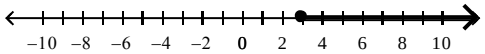
b. $y \geq -1$



c. $y \leq -1$

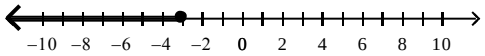


d. $y \geq 3$

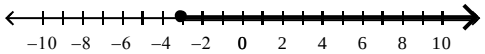


10. $y + 6 \geq 3$

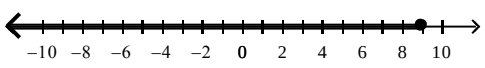
a. $y \leq -3$



b. $y \geq -3$



c. $y \leq 9$



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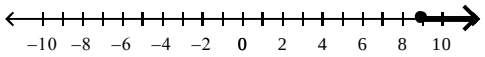
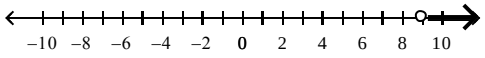
d. $y \geq 9$



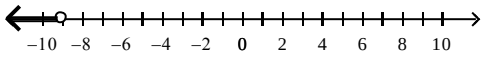
Solve the inequality. Then identify the graph of the solution.

11. $-0.4x < -3.6$

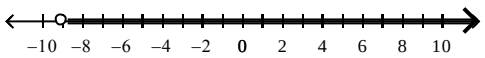
a. $x > 9$



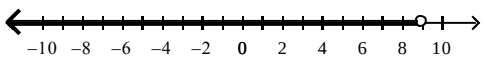
b. $x < -9$



c. $x > -9$



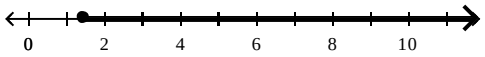
d. $x < 9$



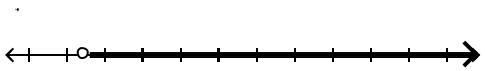
Solve and graph.

12. $-12w \geq -18$

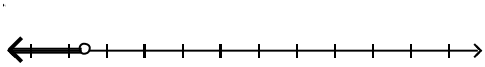
a. $w \geq 1.5$



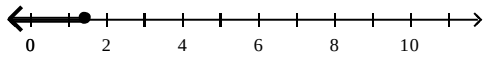
b. $w > 1.5$



c. $w < 1.5$



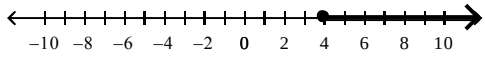
d. $w \leq 1.5$



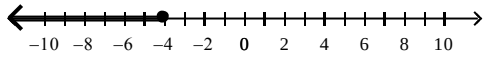
Solve and graph.

13. $-2(3p - 8) \leq -8$

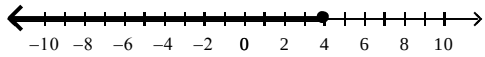
a. $p \geq 4$



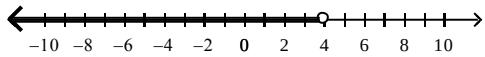
b. $p \leq -4$



c. $p \leq 4$



d. $p < 4$



14. On a road in the city of Rochester, the maximum speed is 45 kilometers per hour and the minimum speed is 30 kilometers per hour. If *x* represents speed, which sentence best expresses this condition?

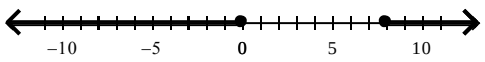
a. $45 \geq x - 30$
b. $45 \leq x \leq 30$
c. $45 \geq x \leq 30$
d. $45 \geq x \geq 30$

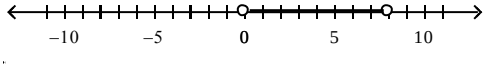
Solve.

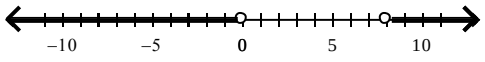
15. $|x + 9| = 3$

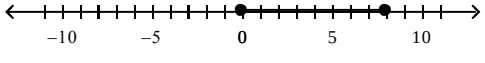
a. The solutions are –6 and –12.
b. The solution is –12.
c. The solutions are 12 and 6.
d. The solution is 6.

16. Solve $|x - 4| \geq 4$ and graph your solution.

a.


b.


c.


d.


17. The Martinez family is going to the county fair. They have two ticket options as shown in the chart below.

Ticket Option	Admission Price	Price Per Ride
A	\$5	\$.50
B	\$3	\$.90

I. Write an equation that shows the cost per person for each option.
II. Use graphing to solve the system of equations.
III. Find the number of rides for which the total cost is the same with both ticket options.

a. I. $C = 5 + 50r$
$C = 3 + 90r$
II. (0.05, 0.075)
III. 0.005 ride

b. I. $C = 3 + 0.9r$
$C = 5 + 50r$
II. (0.05, 0.075)
III. 0.05 ride

c. I. $C = 5 + 0.5r$
$C = 3 + 90r$
II. (5, 7.5)
III. 5 rides

d. I. $C = 5 + 0.5r$
$C = 3 + 0.9r$
II. (5, 7.5)
III. 5 rides

18. Solve the system by substitution:

$y = 7x - 6$

$y = 9x$

a. $(1, 9)$
b. $(3, -3)$
c. $(-3, -27)$
d. $(1, -5)$

19. Solve by substitution:

$2x + 5y = -3$

$y = 4x - 5$

a. $(1, -1)$
b. no solution
c. $(2, 3)$
d. $(2, -\frac{7}{5})$

Solve by elimination:

20. $5x + 7y = -8$

$3x - 7y = -16$

a. $(10, \frac{46}{7})$
b. $(0, -\frac{8}{7})$
c. (–3, 1)
d. no solution

21. Marc sold 542 tickets for the school play. Student tickets cost \$4 and adult tickets cost \$6. Marc's sales totaled \$2764. How many adult tickets and how many student tickets did Marc sell?

a. 298 adult, 244 student
b. 244 adult, 298 student
c. 249 adult, 293 student
d. 293 adult, 249 student

22. Which system of equations has no solution?

a. $8x + 2y = 30$
$8x + 8y = 120$

b. $8x - 2y = 1$
$5x - 5y = 21$

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c. $8x - 2y = 1$
$-16x + 4y = 21$

d. $8x + 2y = 1$
$16x + 5y = 2$

Describe the solution(s) of the system.

23. $5x - 4y = 8$
$20x - 16y = 3$

a. no solution
b. $(-3, -\frac{23}{4})$
c. $(2, \frac{1}{2})$
d. (3, 7)

Simplify. Leave your answer in exponential form.

24. $6^1 \times 6^8$
a. 6^8
b. 6^7
c. 6^9
d. 36^9

Simplify:

25. $w^6 \cdot w^7 \cdot w^4$
a. w^{168}
b. w^{17}
c. $3w^{168}$
d. $3w^{17}$

26. $\left(w^5 c^3\right)\left(-7w^7 c\right)$
a. $-7w^{12}c^5$
b. $-7w^{13}c^5$
c. $-7w^{12}c^4$
d. $-7w^{13}c^4$

Simplify the expression using positive exponents.

27. $\left(\frac{q^6}{r^2}\right)^5$
a. $\frac{q^{30}}{r^2}$
b. $q^{30} + r^{10}$
c. $\frac{q^{11}}{r^7}$
d. $\frac{q^{30}}{r^{10}}$

Simplify:

28. $a^{-7} \cdot a^4$
a. $\frac{1}{a^3}$
b. -3^a
c. $\frac{1}{a^{-3}}$
d. a^{11}

29. $5^3 + 4 + 6^0$
a. 500
b. 135
c. 3000
d. 130

30. Write $4^0 \cdot 4^{-11}$ using positive exponents.
a. 4^0
b. $\frac{1}{4^{12}}$
c. $\frac{1}{4^{11}}$
d. 4^{11}

31. Write 11,504 in scientific notation.
a. 115.04×10^2
b. 1.1504×10^2
c. 1.1504×10^5
d. 1.1504×10^4

32. Write 0.00000389 in scientific notation.
a. 3.89×10^{-6}
b. 0.389×10^{-5}

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c. 389×10^{-7}
d. 389×10^{-8}

Multiply:

33. $\left(2.5 \times 10^{-9}\right)\left(6.6 \times 10^{4}\right)$
a. 1.65×10^{-5}
b. 16.5×10^{-36}
c. 9.1×10^{-5}
d. 16.5×10^{-5}

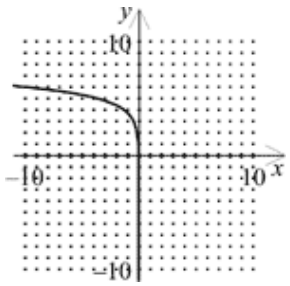
34. In astronomy, the immense distances between celestial bodies are measured in light-years, the distance that light can travel in one year. One light-year is approximately 5,880,000,000,000 miles. If a star is 8.9 light-years from Earth, how would you correctly represents the number of miles the star is from Earth in scientific notation ?
a. 52.3×10^{12}
b. 5.9×10^{12}
c. 5.4×10^{13}
d. 5.2×10^{13}

35. The amount of money, *A*, accrued at the end of *n* years when a certain amount, *P*, is invested at a compound annual rate, *r*, is given by $A = P(1+r)^n$. If a person invests $110 in an account that pays 5% interest compounded annually, find the balance after 15 years.
a. $9900
b. $229
c. $660
d. $48,168

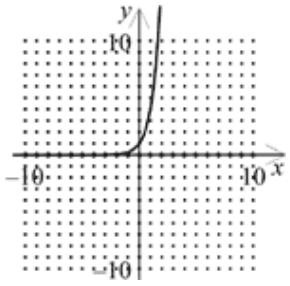
36. If there are initially 2500 bacteria in a culture, and the number of bacteria double each hour, the number of bacteria after *t* hours can be found using the formula $N = 2500\left(2^t\right)$. How long will it take the culture to grow to 75,000 bacteria?
a. 36.25 hr
b. 2.96 hr
c. 1.48 hr
d. 4.91 hr

Graph the function.

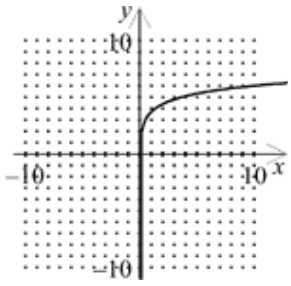
37. $y = \left(\frac{1}{4}\right)^x$
a.



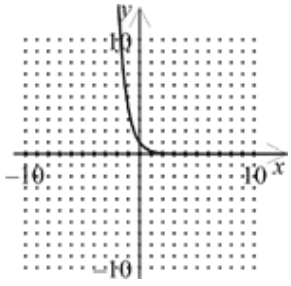
b.



c.



d.



38. Find the degree of the polynomial $3x^6 + x^5 + 3$.
a. 11
b. 1

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c. 7
d. 6

39. Which expression is a polynomial?
a. $5p^2 - p + 4^p$
b. $\frac{p-5}{p+4} + \frac{4}{p}$
c. $\frac{1}{4}p^5 + \frac{p+4}{3}$
d. $\frac{4}{5}p^3 + \frac{5^4}{p}$

Find the product.

40. $(x-5)(x+2)$
a. $x^2 - 3x + 10$
b. $x^2 + 7x + 10$
c. $x^2 + 7x - 10$
d. $x^2 - 3x - 10$

41. $(x+8)\left(x^2 - 2x + 8\right)$
a. $x^3 + 10x^2 - 24x + 64$
b. $x^3 + 6x^2 - 24x + 64$
c. $x^3 + 6x^2 - 8x + 64$
d. $x^3 + 10x^2 - 8x + 64$

Find the product.

42. $\left(6x^2 - 2\right)^2$
a. $36x^4 - 4$
b. $36x^4 - 24x^2 + 4$
c. $36x^4 - 24x^2 - 4$
d. $36x^2 - 12x + 4$

43. $(3c+8)(3c-8)$
a. $9c^2 + 48c + 64$
b. $9c^2 + 64$
c. $9c^2 - 64$
d. $9c^2 + 48c - 64$

44. $(8v+7)(8v-7)$
a. $64v^2 - 49$
b. $64v^2 + 112v - 49$
c. $64v^2 + 49$
d. $64v^2 + 112v + 49$

Factor the polynomial.

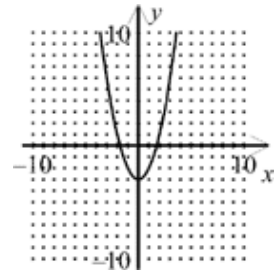
45. $x^2 - 15x + 54$
a. $(x+6)(x-9)$
b. $(x-6)(x-9)$
c. $(x-6)(x+9)$
d. $(x+6)(x+9)$

Solve the equation.

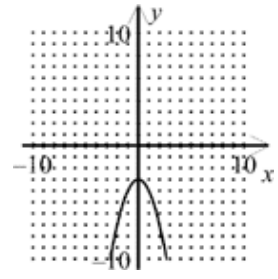
46. $25b^2 + 80b + 64 = 0$
a. $b = \frac{5}{8}$
b. $b = -\frac{5}{8}$
c. $b = -\frac{8}{5}$
d. $b = \frac{8}{5}$

Graph:

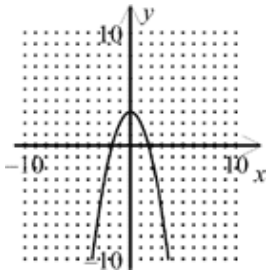
47. $y = x^2 + 3$
a.

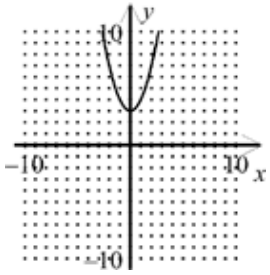


b.



Name:_____Date:_____Per:____

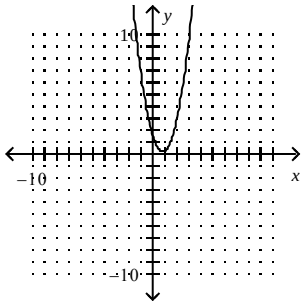
c. 

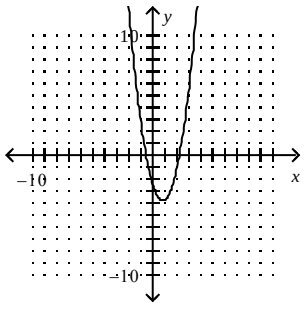
d. 

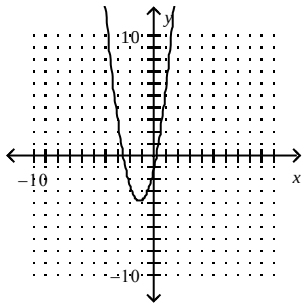
48. How would you change the graph of $y = x^2$ to produce the graph of $y = x^2 - 6$?
   a. shift the graph of $y = x^2$ left 6 units
   b. shift the graph of $y = x^2$ up 6 units
   c. shift the graph of $y = x^2$ down 6 units
   d. shift the graph of $y = x^2$ right 6 units

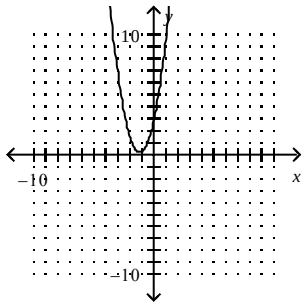
Graph:

49. $y = 2x^2 - 4x + 2$

a. 

b. 

c. 

d. 

Solve the equation.

50. $16x^2 - 81 = 0$
   a. $-\frac{16}{81}, \frac{16}{81}$
   b. $-\frac{9}{4}, \frac{9}{4}$
   c. $-\frac{81}{16}, \frac{81}{16}$
   d. $-\frac{4}{9}, \frac{4}{9}$

Solve the equation by completing the square.

51. $4x^2 + 8x - 3 = 0$
   a. $\frac{-2 \pm \sqrt{7}}{2}$
   b. $\frac{2 \pm \sqrt{7}}{2}$
   c. $\frac{-2 \pm 2\sqrt{7}}{2}$
   d. $2 \pm \sqrt{7}$

Solve the quadratic equation.

52. $x^2 + 6x + 3 = 0$

Name:_____Date:_____Per:____

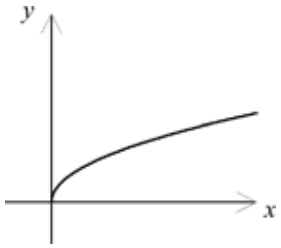
a. $3+\sqrt{6}, 3-\sqrt{6}$
b. $6+2\sqrt{6}, 6-2\sqrt{6}$
c. $-3+\sqrt{6}, -3-\sqrt{6}$
d. $-6+2\sqrt{6}, -6-2\sqrt{6}$

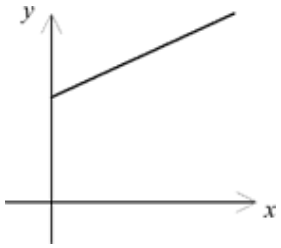
53. The table gives the number of inner tubes, *I*, sold in a bike shop between 1985 and 1990. Determine which model best fits the data.

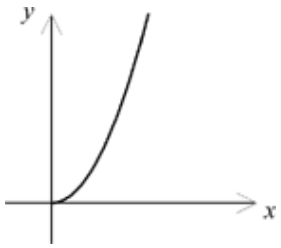
Year, *t*	1985	1986	1987	1988	1989	1990
Inner tubes, *I*	16	36	67	130	261	513

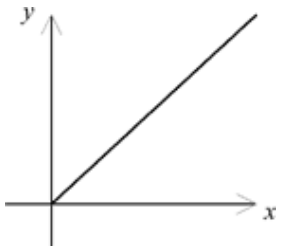
a. absolute value b. exponential c. linear d. quadratic

54. A salesperson earns a monthly salary of $700 a month plus a percentage of the proceeds from the number of items he sells. Which graph could be a model of this situation?

a. 

b. 

c. 

d. 

55. $\sqrt{30}\cdot\sqrt{10}$
a. $10\sqrt{3}$
b. $\sqrt{300}$
c. $5\sqrt{6}$
d. $10\sqrt{6}$

Solve:

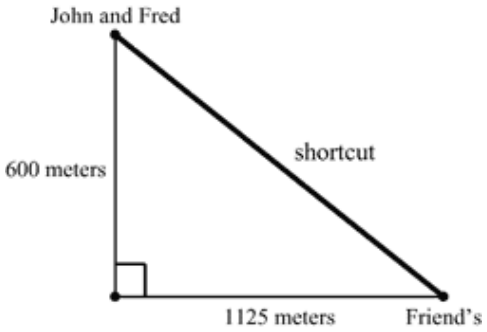
56. $\sqrt{x-5}-4=7$
a. 28
b. 126
c. no solution
d. 8

57. $\sqrt{4x-3}=4$
a. $\frac{9}{4}$
b. $\frac{5}{4}$
c. $\frac{19}{4}$
d. $\frac{19}{4}, \frac{31}{4}$

58. John and Fred decided to take a shortcut through the woods to go to their friend's house. When they went home they decided to take the long way around the woods to avoid getting blackberry vine scratches. If the length of the shortcut is equal to the square root of the sum of the squares of the other two sides, what total distance did they walk?

Simplify:

Name:_____Date:_____Per:____



a. 3450 meters
b. 3000 meters
c. 4275 meters
d. 2587 meters

59. To get to the store from his house, Jack biked 5 kilometers due west and then 12 kilometers due north. On the way back he cut across a field, taking the shortest possible route home.

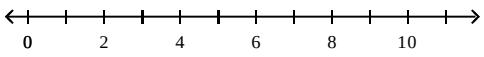
How far did Jack bike on the round-trip?
a. 34 km
b. 13 km
c. 17 km
d. 30 km

60. Find an equation of variation when y varies inversely with x and $y = 3$ when $x = 8$.
a. $y = \frac{8}{3}x$
b. $y = \frac{3}{8}x$
c. $y = \frac{x}{24}$
d. $y = \frac{24}{x}$

Short Answer

Solve and graph.

1. $-8n + 7 > -25$



Solve.

2. $|x - 4| = 3$

Solve by elimination:

3. $6x - 4y = -14$
$x + 4y = 7$

Simplify the expression using positive exponents.

4. $\frac{2^{20}}{2^4}$.

5. Simplify $\frac{3^8}{3^5}$.

Factor the polynomial.

6. $x^2 - 10x + 24$

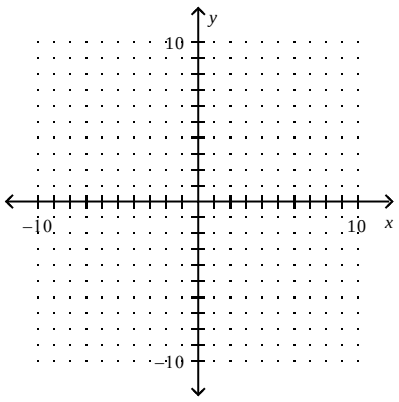
Solve the equation.

7. $16b^2 + 144b + 324 = 0$

Graph:

8. $y = 4x^2 + 3x - 3$

Name:_____Date:_____Per:____



Solve the equation.

9. $x^2 = 9$

Solve the quadratic equation.

10. $x^2 - 8x + 11 = 0$

Determine the number of solutions of the equation.

11. $4x^2 - 2x = -5$

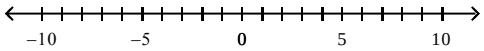
12. $2x^2 - 8x + 5 = 0$

13. Write the standard form of the equation of the line with slope –4 passing through the point $(6, -4)$.

14. Write an equation of the line with undefined slope that passes through the point $(0, -2)$.

15. The width, *w*, of a piece of wood ranges from 74 mm to 83 mm. Write and graph an inequality to describe this interval. Does this graph represent a discrete or continuous data set?

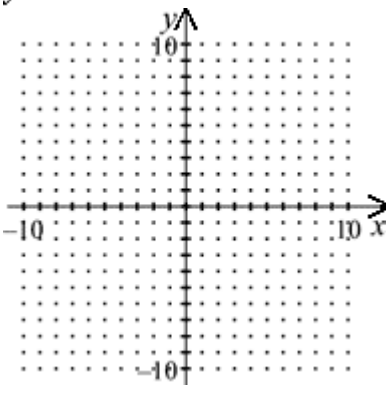
16. Solve $|x + 1| < 5$ and graph your solution.



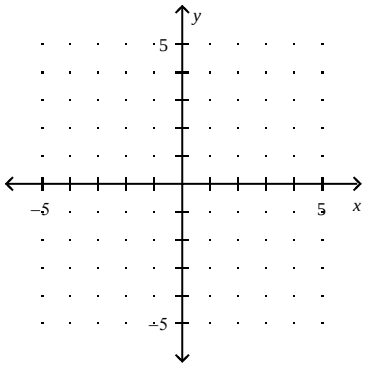
17. Write as a fraction and simplify: 3^{-4}

Graph the function.

18. $y = 5^x$



19. Graph the function and label as exponential growth or decay. $y = 2(2)^x$



20. Solve the equation $(x-9)(x-6) = 0$.

21. Solve the equation $(x-2)(x+5) = 0$.

Solve the equation.

22. $x^2 - 3x - 54 = 0$

Factor the trinomial.

23. $3x^2 - 10x + 8$

Name:_____Date:_____Per:____

24. $8x^2 + 6x - 5$

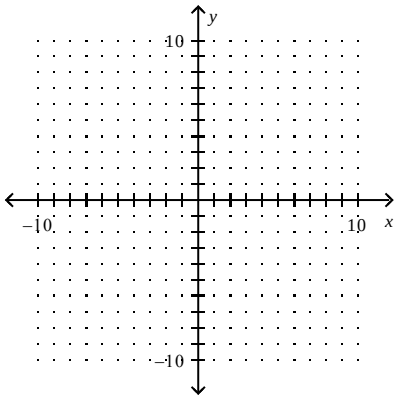
Solve the equation.

25. $x^3 - 8x^2 - 9x = 0$

26. $x^3 - x^2 - 6x = 0$

Solve the equation by graphing.

27. $x^2 - 4x + 3 = 0$



Simplify:

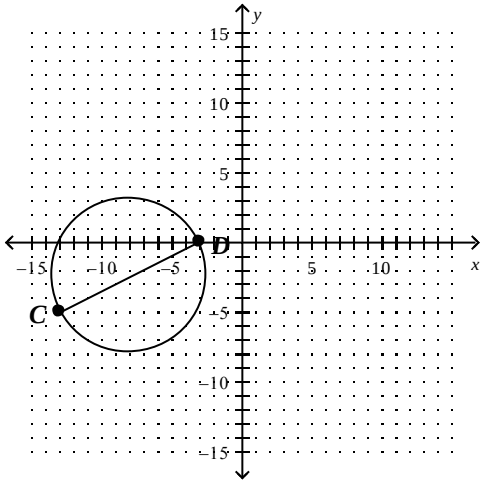
28. $\sqrt{245}$

29. The price per person of renting a bus varies inversely with the number of people renting the bus. It costs $17 per person if 76 people rent the bus. How much will it cost per person if 57 people rent the bus?

30. Find the domain and range of the function $f(x) = \frac{1}{x-4}$.

31. Graph the radical function $y = \sqrt{x+1}$ and then find the domain and range.

32. The endpoints of a diameter of a circle are $C(-13, -5)$ and $D(-3, 0)$. What is the *y*-coordinate of the center of the circle?



Find the product.

33. $\frac{7y^2}{5} \cdot \frac{20}{8y}$

Simplify:

34. $\frac{-2x + 2x^2}{-18x + 18}$

Divide:

35. $\frac{x^2 + 8x + 3}{x}$

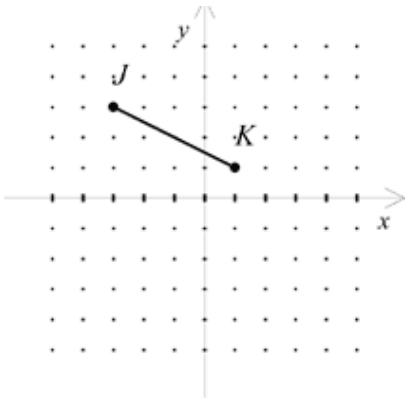
36. A rocket is launched from atop a 33 foot cliff with an initial vertical velocity of 149 feet per second. The height of the rocket *t* seconds after launch is given by the equation $h = -16t^2 + 149t + 33$. Graph the equation to find out how long after the rocket is launched it will hit the ground. Estimate your answer to the nearest tenth of a second.

Solve the equation by completing the square.

37. $x^2 + 6x - 16 = 0$

38. Find the midpoint of $\overline{JK}$.

Name:_____Date:_____Per:____



39. Write the polynomial so that the exponents decrease from left to right.

$8x^5 - 8x + 5x^6 - 3$

Essay

1. **SHORT RESPONSE Write your answer on a separate piece of paper.**

   Between them, Brian and Leslie drove a total of 585 miles in 12 hours. Brian drove the first part of the trip and averaged 60 miles per hour. Leslie drove the remainder of the trip and averaged 45 miles per hour.

   Part A Write a system of two equations that could be used to find the length of time each person drove. Let *x* represent the length of time Brian drove and let *y* represent the length of time Leslie drove.
   Part B Solve the system of equations for *x* and *y* to determine how many hours each person drove. Show your work.

Name:_____Date:_____Per:____

Algebra 1 Final Exam Study Guide
Answer Section

MULTIPLE CHOICE

1. ANS: A PTS: 1 DIF: Level A REF: MALG0773
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.10
   TOP: Lesson 5.3 Write Linear Equations in Point-Slope Form KEY: equation | slope | intercept | point-slope
   BLM: Comprehension NOT: 978-0-618-65612-7
2. ANS: D PTS: 1 DIF: Level B REF: MALG0777
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.10
   TOP: Lesson 5.3 Write Linear Equations in Point-Slope Form KEY: line | equation | point-slope
   BLM: Comprehension NOT: 978-0-618-65612-7
3. ANS: B PTS: 1 DIF: Level B REF: MALG0808
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.10
   TOP: Lesson 5.5 Write Equations of Parallel and Perpendicular Lines
   KEY: line | point | equation | slope | parallel BLM: Comprehension
   NOT: 978-0-618-65612-7
4. ANS: C PTS: 1 DIF: Level B REF: MALG0812
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.10
   TOP: Lesson 5.5 Write Equations of Parallel and Perpendicular Lines
   KEY: line | point | equation | slope | perpendicular BLM: Comprehension
   NOT: 978-0-618-65612-7
5. ANS: D PTS: 1 DIF: Level A REF: MALG0821
   STA: FL.FLSSS.MTH.07.9-12.MA.912.S.3.1.7 TOP: Lesson 5.6 Fit a Line to Data
   KEY: scatter plot BLM: Knowledge NOT: 978-0-618-65612-7
6. ANS: A PTS: 1 DIF: Level B REF: MALG0836
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.11 | FL.FLSSS.MTH.07.9-12.MA.912.S.3.1.7 | FL.FLSSS.MTH.07.9-12.MA.912.S.4.5 | FL.FLSSS.MTH.07.9-12.MA.912.S.5.9
   TOP: Lesson 5.6 Fit a Line to Data KEY: scatter plot BLM: Comprehension
   NOT: 978-0-618-65612-7
7. ANS: D PTS: 1 DIF: Level A REF: MALG0852
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.11 | FL.FLSSS.MTH.07.9-12.MA.912.S.5.8 | FL.FLSSS.MTH.07.9-12.MA.912.T.1.8 TOP: Lesson 5.7 Predict with Linear Models
   KEY: graph | estimate | scatter plot | predict BLM: Knowledge
   NOT: 978-0-618-65612-7
8. ANS: A PTS: 1 DIF: Level A REF: MALG0855
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.11 | FL.FLSSS.MTH.07.9-12.MA.912.S.5.8 | FL.FLSSS.MTH.07.9-12.MA.912.T.1.8 TOP: Lesson 5.7 Predict with Linear Models
   KEY: graph | estimate | scatter plot | predict BLM: Knowledge
   NOT: 978-0-618-65612-7
9. ANS: C PTS: 1 DIF: Level B REF: MALG0862
   STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.4
   TOP: Lesson 6.1 Solve Inequalities Using Addition and Subtraction
   KEY: graph | subtract | one-step | inequality | solve | integer BLM: Knowledge
   NOT: 978-0-618-65612-7
10. ANS: B PTS: 1 DIF: Level B REF: MALG0863

STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.4
TOP: Lesson 6.1 Solve Inequalities Using Addition and Subtraction
KEY: inequality | solve | integer | graph | subtract | one-step BLM: Knowledge
NOT: 978-0-618-65612-7

11. ANS: A PTS: 1 DIF: Level B REF: MALG0871
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.4
TOP: Lesson 6.2 Solve Inequalities Using Multiplication and Division
KEY: inequality | solve | integer | graph | divide | one-step BLM: Knowledge
NOT: 978-0-618-65612-7

12. ANS: D PTS: 1 DIF: Level B REF: MALG0873
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.4
TOP: Lesson 6.2 Solve Inequalities Using Multiplication and Division
KEY: inequality | graph BLM: Knowledge NOT: 978-0-618-65612-7

13. ANS: A PTS: 1 DIF: Level B REF: MALG0889
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.4 | FL.FLSSS.MTH.07.9-12.MA.912.A.3.5
TOP: Lesson 6.3 Solve Multi-Step Inequalities KEY: graph | inequality
BLM: Knowledge NOT: 978-0-618-65612-7

14. ANS: D PTS: 1 DIF: Level B REF: MALG0912
TOP: Lesson 6.4 Solve Compound Inequalities
KEY: inequality | word | metric | condition | units BLM: Application
NOT: 978-0-618-65612-7

15. ANS: A PTS: 1 DIF: Level B REF: MALG0939
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.6
TOP: Lesson 6.5 Solve Absolute Value Equations KEY: absolute value | equation
BLM: Knowledge NOT: 978-0-618-65612-7

16. ANS: A PTS: 1 DIF: Level B REF: MALG0953
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.6
TOP: Lesson 6.6 Solve Absolute Value Inequalities KEY: graph | absolute value | inequality
BLM: Knowledge NOT: 978-0-618-65612-7

17. ANS: D PTS: 1 DIF: Level B REF: MALG0995
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.11 | FL.FLSSS.MTH.07.9-12.MA.912.A.3.13 | FL.FLSSS.MTH.07.9-12.MA.912.A.3.14 TOP: Lesson 7.1 Solve Linear Systems by Graphing
KEY: linear | word | system BLM: Application NOT: 978-0-618-65612-7

18. ANS: C PTS: 1 DIF: Level A REF: MALG1010
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.14
TOP: Lesson 7.2 Solve Linear Systems by Substitution
KEY: substitution | variable-2 | linear | solve system BLM: Knowledge
NOT: 978-0-618-65612-7

19. ANS: A PTS: 1 DIF: Level B REF: MALG1012
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.14
TOP: Lesson 7.2 Solve Linear Systems by Substitution
KEY: substitution | two variables | linear | solve system BLM: Knowledge
NOT: 978-0-618-65612-7

20. ANS: C PTS: 1 DIF: Level A REF: MALG1032
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.14
TOP: Lesson 7.3 Solve Linear Systems by Adding or Subtracting
KEY: solve | equation | system | linear | unique BLM: Knowledge
NOT: 978-0-618-65612-7

21. ANS: A PTS: 1 DIF: Level B REF: MALG1047

STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.13 | FL.FLSSS.MTH.07.9-12.MA.912.A.3.14
TOP: Lesson 7.4 Solve Linear Systems by Multiplying First
KEY: linear | variables | two | equation | word | system BLM: Application
NOT: 978-0-618-65612-7

22. ANS: C PTS: 1 DIF: Level B REF: MALG1057
TOP: Lesson 7.5 Solve Special Types of Linear Systems KEY: system | solutions
BLM: Knowledge NOT: 978-0-618-65612-7

23. ANS: A PTS: 1 DIF: Level B REF: MALG1063
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.13 | FL.FLSSS.MTH.07.9-12.MA.912.A.3.14
TOP: Lesson 7.5 Solve Special Types of Linear Systems
KEY: linear | no solution | system(2) | solve | equation BLM: Application
NOT: 978-0-618-65612-7

24. ANS: C PTS: 1 DIF: Level B REF: MALG1096
TOP: Lesson 8.1 Apply Exponent Properties Involving Products
KEY: exponent BLM: Knowledge NOT: 978-0-618-65612-7

25. ANS: B PTS: 1 DIF: Level B REF: MALG1098
TOP: Lesson 8.1 Apply Exponent Properties Involving Products
KEY: simplify | exponent | multiply | product rule BLM: Knowledge
NOT: 978-0-618-65612-7

26. ANS: C PTS: 1 DIF: Level B REF: MALG1100
TOP: Lesson 8.1 Apply Exponent Properties Involving Products
KEY: simplify | exponent | multiply | product rule BLM: Knowledge
NOT: 978-0-618-65612-7

27. ANS: D PTS: 1 DIF: Level B REF: MALG1127
TOP: Lesson 8.2 Apply Exponent Properties Involving Quotients
KEY: exponent | power | quotient | power to a power | fraction | simplify | monomial | exponent law
BLM: Comprehension NOT: 978-0-618-65612-7

28. ANS: A PTS: 1 DIF: Level B REF: MALG1134
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1
TOP: Lesson 8.3 Define and Use Zero and Negative Exponents
KEY: negative | exponent BLM: Knowledge NOT: 978-0-618-65612-7

29. ANS: A PTS: 1 DIF: Level A REF: MALG1131
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1
TOP: Lesson 8.3 Define and Use Zero and Negative Exponents
KEY: zero | exponent | multiply BLM: Knowledge NOT: 978-0-618-65612-7

30. ANS: C PTS: 1 DIF: Level B REF: MALG1141
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1
TOP: Lesson 8.3 Define and Use Zero and Negative Exponents
KEY: exponent | divide | multiply | negative | integer | simplify BLM: Comprehension
NOT: 978-0-618-65612-7

31. ANS: D PTS: 1 DIF: Level A REF: MALG1158
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1 TOP: Lesson 8.4 Use Scientific Notation
KEY: scientific notation BLM: Knowledge NOT: 978-0-618-65612-7

32. ANS: A PTS: 1 DIF: Level A REF: MALG1160
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1 TOP: Lesson 8.4 Use Scientific Notation
KEY: scientific notation BLM: Knowledge NOT: 978-0-618-65612-7

33. ANS: D PTS: 1 DIF: Level B REF: MALG1174
TOP: Lesson 8.4 Use Scientific Notation KEY: multiply | product | scientific notation

BLM: Comprehension NOT: 978-0-618-65612-7

34. ANS: D PTS: 1 DIF: Level B REF: MALG1178
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1 | FL.FLSSS.MTH.07.9-12.MA.912.T.1.8
TOP: Lesson 8.4 Use Scientific Notation KEY: word | scientific notation
BLM: Application NOT: 978-0-618-65612-7

35. ANS: B PTS: 1 DIF: Level B REF: MAL21007
TOP: Lesson 8.5 Write and Graph Exponential Growth Functions
KEY: word | log | compound interest BLM: Application NOT: 978-0-618-65612-7

36. ANS: D PTS: 1 DIF: Level B REF: MAL21024
TOP: Lesson 8.5 Write and Graph Exponential Growth Functions
KEY: word | exponential growth BLM: Application NOT: 978-0-618-65612-7

37. ANS: D PTS: 1 DIF: Level B REF: MALG1206
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.8.3
TOP: Lesson 8.6 Write and Graph Exponential Decay Functions
KEY: graph | exponential | function BLM: Knowledge NOT: 978-0-618-65612-7

38. ANS: D PTS: 1 DIF: Level B REF: MALG1221
TOP: Lesson 9.1 Add and Subtract Polynomials KEY: polynomial | degree
BLM: Comprehension NOT: 978-0-618-65612-7

39. ANS: C PTS: 1 DIF: Level A REF: MALG1232
TOP: Lesson 9.1 Add and Subtract Polynomials KEY: polynomial | identify
BLM: Comprehension NOT: 978-0-618-65612-7

40. ANS: D PTS: 1 DIF: Level B REF: MALG1259
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.2 TOP: Lesson 9.2 Multiply Polynomials
KEY: binomial | multiply | polynomial BLM: Comprehension
NOT: 978-0-618-65612-7

41. ANS: C PTS: 1 DIF: Level B REF: MALG1267
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.2 | FL.FLSSS.MTH.07.9-12.MA.912.A.4.2
TOP: Lesson 9.2 Multiply Polynomials KEY: trinomial | binomial | multiply
BLM: Comprehension NOT: 978-0-618-65612-7

42. ANS: B PTS: 1 DIF: Level A REF: MALG1285
TOP: Lesson 9.3 Find Special Products of Polynomials KEY: square | binomial
BLM: Knowledge NOT: 978-0-618-65612-7

43. ANS: C PTS: 1 DIF: Level A REF: MALG1291
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.2
TOP: Lesson 9.3 Find Special Products of Polynomials
KEY: binomial | multiply | foil | difference of two squares BLM: Knowledge
NOT: 978-0-618-65612-7

44. ANS: A PTS: 1 DIF: Level A REF: MALG1296
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.2
TOP: Lesson 9.3 Find Special Products of Polynomials
KEY: binomial | multiply | difference of two squares BLM: Knowledge
NOT: 978-0-618-65612-7

45. ANS: B PTS: 1 DIF: Level A REF: MALG1317
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.3 TOP: Lesson 9.5 Factor x2 + bx + c
KEY: trinomial | binomial | factor BLM: Knowledge NOT: 978-0-618-65612-7

46. ANS: C PTS: 1 DIF: Level B REF: MALG1335
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.2 | FL.FLSSS.MTH.07.9-12.MA.912.A.7.3
TOP: Lesson 9.7 Factor Special Products KEY: perfect square trinomial | equation |

BLM: Application NOT: 978-0-618-65612-7

47. ANS: D PTS: 1 DIF: Level B REF: MALG1360
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.7.1
TOP: Lesson 10.1 Graph y = ax2 + c KEY: quadratic | graph
BLM: Knowledge NOT: 978-0-618-65612-7

48. ANS: C PTS: 1 DIF: Level B REF: MALG1361
TOP: Lesson 10.1 Graph y = ax2 + c KEY: parabola | translation
BLM: Comprehension NOT: 978-0-618-65612-7

49. ANS: A PTS: 1 DIF: Level A REF: MALG1371
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.7.1
TOP: Lesson 10.2 Graph y = ax2 + bx + c KEY: graph | quadratic
BLM: Comprehension NOT: 978-0-618-65612-7

50. ANS: B PTS: 1 DIF: Level B REF: MALG1401
TOP: Lesson 10.4 Use Square Roots to Solve Quadratic Equations
KEY: solve | quadratic | square BLM: Comprehension
NOT: 978-0-618-65612-7

51. ANS: A PTS: 1 DIF: Level B REF: MALG1419
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.3
TOP: Lesson 10.5 Solve Quadratic Equations by Completing the Square
KEY: solve | quadratic | completing the square BLM: Comprehension
NOT: 978-0-618-65612-7

52. ANS: C PTS: 1 DIF: Level A REF: MALG1424
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.2
TOP: Lesson 10.6 Solve Quadratic Equations by the Quadratic Formula
KEY: solve | equation | quadratic | formula BLM: Knowledge
NOT: 978-0-618-65612-7

53. ANS: B PTS: 1 DIF: Level B REF: MALG1454
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.8.1
TOP: Lesson 10.8 Compare Linear, Exponential, and Quadratic Models
KEY: function | table BLM: Comprehension
NOT: 978-0-618-65612-7

54. ANS: B PTS: 1 DIF: Level B REF: MALG1457
TOP: Lesson 10.8 Compare Linear, Exponential, and Quadratic Models
KEY: linear | compare | graph BLM: Application NOT: 978-0-618-65612-7

55. ANS: A PTS: 1 DIF: Level B REF: MALG1479
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.6.2
TOP: Lesson 11.2 Simplify Radical Expressions KEY: radical | multiply | simplify
BLM: Application NOT: 978-0-618-65612-7

56. ANS: B PTS: 1 DIF: Level B REF: MALG1510
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.6.1 TOP: Lesson 11.3 Solve Radical Equations
KEY: solve | equation | radical BLM: Application NOT: 978-0-618-65612-7

57. ANS: C PTS: 1 DIF: Level A REF: MALG1512
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.6.1 TOP: Lesson 11.3 Solve Radical Equations
KEY: solve | equation | radical BLM: Application NOT: 978-0-618-65612-7

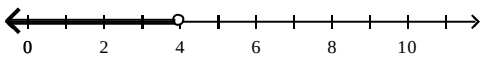
58. ANS: B PTS: 1 DIF: Level B REF: MALG1527
STA: FL.FLSSS.MTH.07.9-12.MA.912.G.5.1 | FL.FLSSS.MTH.07.9-12.MA.912.G.5.4 |
FL.FLSSS.MTH.07.9-12.MA.912.T.1.8 TOP: Lesson 11.4 Apply the Pythagorean Theorem and Its Converse
KEY: real-life | Pythagorean Theorem BLM: Application NOT: 978-0-618-65612-7

59. ANS: D PTS: 1 DIF: Level A REF: MALG1528
STA: FL.FLSSS.MTH.07.9-12.MA.912.G.2.5 | FL.FLSSS.MTH.07.9-12.MA.912.G.5.1 | FL.FLSSS.MTH.07.9-12.MA.912.G.5.4 | FL.FLSSS.MTH.07.9-12.MA.912.T.1.8
TOP: Lesson 11.4 Apply the Pythagorean Theorem and Its Converse
KEY: Pythagorean Theorem | real-life BLM: Application NOT: 978-0-618-65612-7

60. ANS: D PTS: 1 DIF: Level B REF: MALG1564
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.12 TOP: Lesson 12.1 Model Inverse Variation
KEY: inverse variation | equation BLM: Comprehension
NOT: 978-0-618-65612-7

SHORT ANSWER

1. ANS:
$n < 4$



PTS: 1 DIF: Level B REF: MALG0886
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.4 | FL.FLSSS.MTH.07.9-12.MA.912.A.3.5
TOP: Lesson 6.3 Solve Multi-Step Inequalities KEY: inequality | graph
BLM: Knowledge NOT: 978-0-618-65612-7

2. ANS:
1, 7

PTS: 1 DIF: Level B REF: MALG0938 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.6
TOP: Lesson 6.5 Solve Absolute Value Equations KEY: equation | absolute value
BLM: Knowledge NOT: 978-0-618-65612-7

3. ANS:
(–1, 2)

PTS: 1 DIF: Level A REF: MALG1031
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.14
TOP: Lesson 7.3 Solve Linear Systems by Adding or Subtracting
KEY: linear | unique | solve | equation | system BLM: Knowledge
NOT: 978-0-618-65612-7

4. ANS:
2^{16}

PTS: 1 DIF: Level A REF: MALG1121
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1 | FL.FLSSS.MTH.07.9-12.MA.912.A.1.3
TOP: Lesson 8.2 Apply Exponent Properties Involving Quotients
KEY: divide | exponents BLM: Knowledge NOT: 978-0-618-65612-7

5. ANS:
3^4

PTS: 1 DIF: Level A REF: MALG1122
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1 | FL.FLSSS.MTH.07.9-12.MA.912.A.1.3

TOP: Lesson 8.2 Apply Exponent Properties Involving Quotients
KEY: exponents | divide BLM: Knowledge NOT: 978-0-618-65612-7

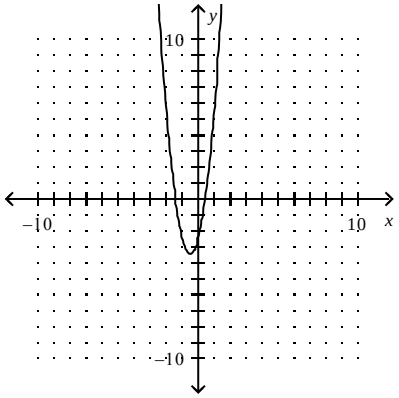
6. ANS:
$(x-4)(x-6)$

PTS: 1 DIF: Level A REF: MALG1316 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.3
TOP: Lesson 9.5 Factor x2 + bx + c KEY: binomial | factor | trinomial
BLM: Knowledge NOT: 978-0-618-65612-7

7. ANS:
$b = -\frac{9}{2}$

PTS: 1 DIF: Level B REF: MALG1334
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.2 | FL.FLSSS.MTH.07.9-12.MA.912.A.7.3
TOP: Lesson 9.7 Factor Special Products KEY: factor | perfect square trinomial
BLM: Application NOT: 978-0-618-65612-7

8. ANS:



PTS: 1 DIF: Level B REF: MALG1370
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.7.1
TOP: Lesson 10.2 Graph y = ax2 + bx + c KEY: quadratic | graph | parabola
BLM: Comprehension NOT: 978-0-618-65612-7

9. ANS:
–3, 3

PTS: 1 DIF: Level A REF: MALG1394 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1
TOP: Lesson 10.4 Use Square Roots to Solve Quadratic Equations
KEY: solve | quadratic | square | square root BLM: Knowledge
NOT: 978-0-618-65612-7

10. ANS:
$4 + \sqrt{5}, 4 - \sqrt{5}$

PTS: 1 DIF: Level B REF: MALG1423 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.2
TOP: Lesson 10.6 Solve Quadratic Equations by the Quadratic Formula
KEY: solve | equation | quadratic | formula BLM: Knowledge
NOT: 978-0-618-65612-7

11. ANS:

0

PTS: 1 DIF: Level B REF: MALG1439 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.4
TOP: Lesson 10.7 Interpret the Discriminant
KEY: equation | solution | quadratic | discriminant BLM: Comprehension
NOT: 978-0-618-65612-7

12. ANS:
2

PTS: 1 DIF: Level B REF: MALG1440 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.4
TOP: Lesson 10.7 Interpret the Discriminant
KEY: equation | solution | quadratic | discriminant BLM: Comprehension
NOT: 978-0-618-65612-7

13. ANS:

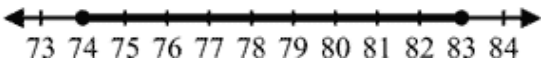
$4x + y = 20$

PTS: 1 DIF: Level B REF: MALG0787
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.7 | FL.FLSSS.MTH.07.9-12.MA.912.A.3.10
TOP: Lesson 5.4 Write Linear Equations in Standard Form
KEY: linear | standard form | point | equation | slope BLM: Comprehension
NOT: 978-0-618-65612-7

14. ANS:
$x = 0$

PTS: 1 DIF: Level B REF: MALG0796
TOP: Lesson 5.4 Write Linear Equations in Standard Form KEY: equation | slope | point | vertical line
BLM: Knowledge NOT: 978-0-618-65612-7

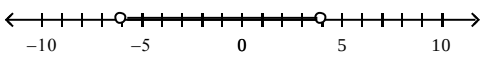
15. ANS:
$74 \le w \le 83$;



continuous

PTS: 1 DIF: Level B REF: MALG0913 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.4
TOP: Lesson 6.4 Solve Compound Inequalities
KEY: graph | continuous | write | inequality | word | discrete BLM: Application
NOT: 978-0-618-65612-7

16. ANS:

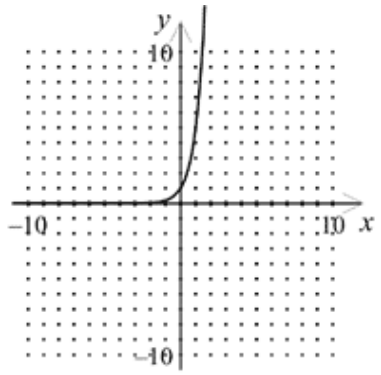


PTS: 1 DIF: Level B REF: MALG0952 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.6
TOP: Lesson 6.6 Solve Absolute Value Inequalities KEY: inequality | graph | absolute value
BLM: Knowledge NOT: 978-0-618-65612-7

17. ANS:
$\frac{1}{81}$

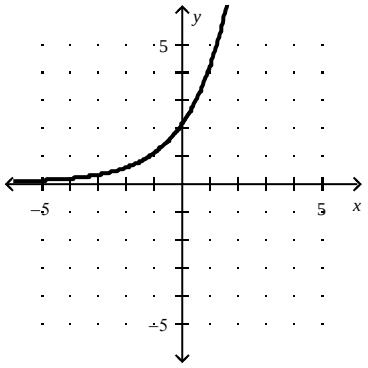
PTS: 1 DIF: Level A REF: MALG1129 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1
TOP: Lesson 8.3 Define and Use Zero and Negative Exponents
KEY: evaluate | exponent | negative | digit-1 BLM: Knowledge
NOT: 978-0-618-65612-7

18. ANS:



PTS: 1 DIF: Level B REF: MALG1201
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.8.3
TOP: Lesson 8.5 Write and Graph Exponential Growth Functions
KEY: graph | exponential BLM: Knowledge NOT: 978-0-618-65612-7

19. ANS:



exponential growth

PTS: 1 DIF: Level B REF: MALG1208
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.8.3 | FL.FLSSS.MTH.07.9-12.MA.912.A.8.7 TOP: Lesson 8.6 Write and Graph Exponential Decay Functions
KEY: graph | exponential | growth | decay BLM: Comprehension
NOT: 978-0-618-65612-7

20. ANS:
9, 6

PTS: 1 DIF: Level A REF: MALG1300 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.8

TOP: Lesson 9.4 Solve Polynomial Equations in Factored Form
KEY: quadratic equations BLM: Knowledge NOT: 978-0-618-65612-7

21. ANS:
2, –5

PTS: 1 DIF: Level A REF: MALG1301 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.8
TOP: Lesson 9.4 Solve Polynomial Equations in Factored Form
KEY: quadratic equations BLM: Knowledge NOT: 978-0-618-65612-7

22. ANS:
$-6, 9$

PTS: 1 DIF: Level B REF: MALG1321 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.8
TOP: Lesson 9.5 Factor x2 + bx + c KEY: solve | equation | quadratic | factor
BLM: Comprehension NOT: 978-0-618-65612-7

23. ANS:
$(3x-4)(x-2)$

PTS: 1 DIF: Level A REF: MALG1326 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.3
TOP: Lesson 9.6 Factor ax2 + bx + c KEY: quadratic | trinomial | polynomial | factor
BLM: Knowledge NOT: 978-0-618-65612-7

24. ANS:
$(4x+5)(2x-1)$

PTS: 1 DIF: Level A REF: MALG1328 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.3
TOP: Lesson 9.6 Factor ax2 + bx + c KEY: trinomial | quadratic | factor
BLM: Knowledge NOT: 978-0-618-65612-7

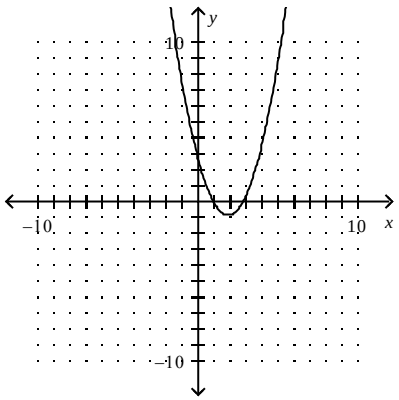
25. ANS:
$-1, 0, 9$

PTS: 1 DIF: Level A REF: MALG1342
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.8 | FL.FLSSS.MTH.07.9-12.MA.912.A.4.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.4.9 TOP: Lesson 9.8 Factor Polynomials Completely
KEY: factor | solve | equation | cubic equation BLM: Comprehension
NOT: 978-0-618-65612-7

26. ANS:
$-2, 0, 3$

PTS: 1 DIF: Level A REF: MALG1344
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.8 | FL.FLSSS.MTH.07.9-12.MA.912.A.4.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.4.9 TOP: Lesson 9.8 Factor Polynomials Completely
KEY: factor | solve | cubic equation BLM: Comprehension
NOT: 978-0-618-65612-7

27. ANS:



$x = 1$ and $x = 3$

PTS: 1 DIF: Level A REF: MALG1382 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.1
TOP: Lesson 10.3 Solve Quadratic Equations by Graphing KEY: solve | quadratic | graph | root
BLM: Comprehension NOT: 978-0-618-65612-7

28. ANS:
$7\sqrt{5}$

PTS: 1 DIF: Level A REF: MALG1473
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.1.1 | FL.FLSSS.MTH.07.9-12.MA.912.A.6.1
TOP: Lesson 11.2 Simplify Radical Expressions KEY: radical | root | integer | simplify
BLM: Knowledge NOT: 978-0-618-65612-7

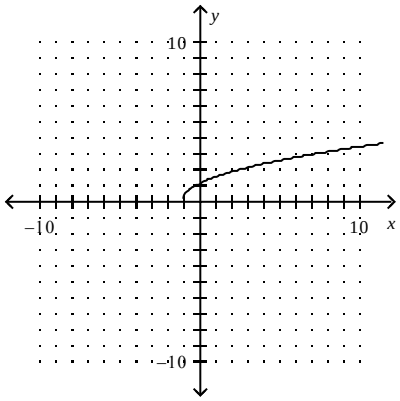
29. ANS:
$22.67

PTS: 1 DIF: Level B REF: MALG1570
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.12 TOP: Lesson 12.1 Model Inverse Variation
KEY: inverse variation BLM: Application NOT: 978-0-618-65612-7

30. ANS:
Domain: all real numbers except 4; Range: all real numbers except 0

PTS: 1 DIF: Level B REF: MALG1577 TOP: Lesson 12.2 Graph Rational Functions
KEY: domain | range | rational function BLM: Comprehension
NOT: 978-0-618-65612-7

31. ANS:



Domain: $x \geq -1$; Range: $y \geq 0$

PTS: 1 DIF: Level B REF: MALG1468 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6
TOP: Lesson 11.1 Graph Square Root Functions KEY: domain | range | radical equation | graph
BLM: Comprehension NOT: 978-0-618-65612-7

32. ANS:
–2.5

PTS: 1 DIF: Level B REF: MALG1558 STA: FL.FLSSS.MTH.07.9-12.MA.912.G.1.1
TOP: Lesson 11.5 Apply the Distance and Midpoint Formulas
KEY: midpoint formula | coordinate geometry | circle | center BLM: Application
NOT: 978-0-618-65612-7

33. ANS:
$\frac{7}{2^y}$

PTS: 1 DIF: Level A REF: MALG1605 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.5.2
TOP: Lesson 12.5 Multiply and Divide Rational Expressions KEY: rational expression | multiply | simplify
BLM: Knowledge NOT: 978-0-618-65612-7

34. ANS:
$-\frac{x}{9}$

PTS: 1 DIF: Level B REF: MALG1597 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.5.1
TOP: Lesson 12.4 Simplify Rational Expressions KEY: simplest form | rational expression
BLM: Comprehension NOT: 978-0-618-65612-7

35. ANS:
$x + 8 + \frac{3}{x}$

PTS: 1 DIF: Level A REF: MALG1580 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.4.4
TOP: Lesson 12.3 Divide Polynomials KEY: monomial | polynomial | long division | remainder
BLM: Knowledge NOT: 978-0-618-65612-7

36. ANS:
9.5 seconds

PTS: 1 DIF: Level B REF: MALG1391
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.2.6 | FL.FLSSS.MTH.07.9-12.MA.912.A.7.1
TOP: Lesson 10.3 Solve Quadratic Equations by Graphing KEY: graph | solve | word | quadratic
BLM: Application NOT: 978-0-618-65612-7

37. ANS:
–8, 2

PTS: 1 DIF: Level B REF: MALG1414 STA: FL.FLSSS.MTH.07.9-12.MA.912.A.7.3
TOP: Lesson 10.5 Solve Quadratic Equations by Completing the Square
KEY: square | solve | equation | quadratic | complete the square BLM: Comprehension
NOT: 978-0-618-65612-7

38. ANS:
(–1, 2)

PTS: 1 DIF: Level A REF: MALG1548 STA: FL.FLSSS.MTH.07.9-12.MA.912.G.1.1
TOP: Lesson 11.5 Apply the Distance and Midpoint Formulas
KEY: segment | midpoint formula | coordinate geometry BLM: Knowledge
NOT: 978-0-618-65612-7

39. ANS:
$5x^6 + 8x^5 - 8x - 3$

PTS: 1 DIF: Level A REF: MALG1219
TOP: Lesson 9.1 Add and Subtract Polynomials
KEY: polynomial | exponents | descending | order BLM: Knowledge
NOT: 978-0-618-65612-7

ESSAY

1. ANS:

Part A $\begin{aligned} 60x + 45y &= 585 \\ x + y &= 12 \end{aligned}$

OR other correct equations

Part B Brian drove for 3 hours and Leslie drove for 9 hours:

$$\begin{aligned} 60x + 45y &= 585 \\ -(45x + 45y) &= -540 \end{aligned}$$

Changes made to second equation

$$\begin{aligned} 45(x + y) &= 45(12) \\ 45x + 45y &= 540 \end{aligned}$$

$$\begin{aligned} 15x &= 45 \\ x &= 45 \div 15 = 3 \\ y &= 12 - 3 = 9 \end{aligned}$$

OR other valid work that leads to $x = 3$ and $y = 9$

PTS: 1 DIF: Level B REF: MALG1054
STA: FL.FLSSS.MTH.07.9-12.MA.912.A.3.14
TOP: Lesson 7.4 Solve Linear Systems by Multiplying First KEY: equation | word | system
BLM: Application NOT: 978-0-618-65612-7