Name: _____

Integrated 2 Post-Test Study Guide

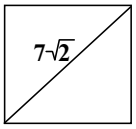
1. Which of the following statements are NOT true?
   a. A tangent intersects a circle in one point
   b. A segment that intersects a circle in three places is called a secant
   c. A tangent is a secant
   d. A diameter is a chord
   e. A secant includes a segment called a chord
   f. A chord intersects a circle in two points
   g. A tangent includes a segment called a chord
   h. A diameter includes a segment called a radius

2. What is the name of the reason that states "If ray BC goes through angle ABD, then $m\angle ABC + m\angle CBD = m\angle ABD$."
   a. Congruent Supplement Theorem
   b. Triangle Sum Theorem
   c. Angle Addition Postulate
   d. Definition of a Midpoint

3. What is the name of the reason that states "If two angles are supplementary to the same angle, then they are congruent to each other."
   a. Triangle Sum Theorem
   b. Congruent Supplement Theorem
   c. Definition of Congruence
   d. Segment Addition Postulate

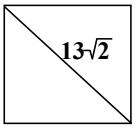
4. What is the name of the reason that states "If B is the midpoint of $\overline{AC}$, then $2(\overline{AB}) = \overline{AC}$."
   a. Addition Property
   b. Congruent Complement Theorem
   c. Segment Addition Postulate
   d. Definition of a midpoint

5. The figure shown is a square. What is the area of the square?



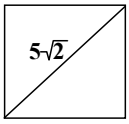
   a. 98 square units
   b. 49 square units
   c. $28\sqrt{2}$ square units
   d. 28 square units

6. The figure shown is a square. What is the area of the square?



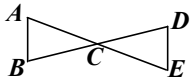
   a. 169 square units
   b. 52 square units
   c. $52\sqrt{2}$ square units
   d. $26\sqrt{2}$ square units

7. The figure shown is a square. What is the area of the square?



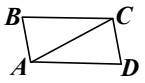
   a. 100 square units
   b. $50\sqrt{2}$ square units
   c. 50 square units
   d. 25 square units

8. In the figure shown, △ABC and △EDC are isosceles triangles with a congruent vertex angle at C, and $\overline{BC} \cong \overline{DC}$. Which theorem could be used to prove △ABC ≅ △EDC?



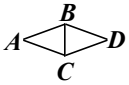
   a. HL
   b. AAS
   c. SAS
   d. SSS

9. In the figure shown, △ABC and △CDA are isosceles triangles and $\overline{AB} \cong \overline{CD}$. Which theorem could be used to prove △ABC ≅ △CDA?



   a. SSS
   b. HL
   c. ASA
   d. SAS

10. In the figure shown, △ABC and △EDC are isosceles triangles with vertex angles at points A and D. $\angle ABC \cong \angle DBC$. Which theorem could be used to prove △ABC ≅ △EDC?



   a. ASA
   b. SSS
   c. SAS
   d. AAS

11. Given the function $f(x) = 5x + 15$, which of the following functions represents the inverse function?
   a. $f^{-1}(x) = \frac{1}{5}x + 3$
   b. $f^{-1}(x) = \frac{1}{5}x - 15$
   c. $f^{-1}(x) = -5x - 15$
   d. $f^{-1}(x) = \frac{1}{5}x - 3$

12. Given the function $f(x) = 4x + 32$, which of the following functions represents the inverse function?
   a. $f^{-1}(x) = \frac{1}{4}x - 32$
   b. $f^{-1}(x) = \frac{1}{4}x - 8$
   c. $f^{-1}(x) = \frac{1}{4}x + 8$
   d. $f^{-1}(x) = -4x - 32$

13. Given the function $f(x) = 6x + 42$, which of the following functions represents the inverse function?
   a. $f^{-1}(x) = \frac{1}{6}x - 7$
   b. $f^{-1}(x) = -6x - 42$
   c. $f^{-1}(x) = \frac{1}{6}x - 42$
   d. $f^{-1}(x) = \frac{1}{6}x + 7$

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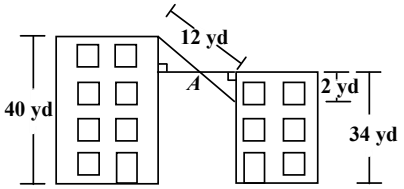
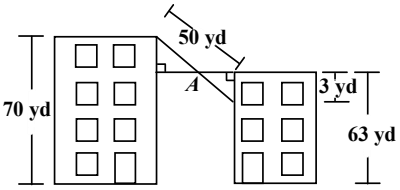
14. Two kids decided to string a rope from the roof of a 40 yard tall building to a window on the side of a 34 yard tall building so that they could send a bucket full of toys into the window. On their first try, the bucket got stuck on a clothesline at point *A*. How far did the bucket travel down the rope?



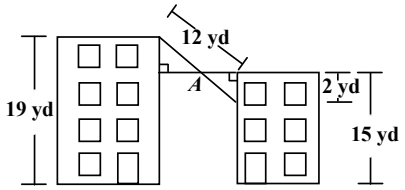
a. 9 yd
b. 6 yd
c. 4 yd
d. 3 yd

15. A daredevil is walking a tight-rope from the roof of a 70 yard tall building to a window on the side of a 63 yard tall building. He pauses at point *A*. At that moment, how far is he from the window?



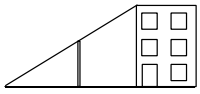
a. 9 yd
b. 15 yd
c. 35 yd
d. 41 yd

16. A bird is flying in a straight line out of a window on the side of a 15 yard tall building toward the roof of a 19 yard tall building. A photographer takes a picture of the bird at point *A*. At that moment, how far is the bird from the roof?



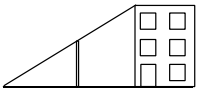
a. 2 yd
b. 4 yd
c. 6 yd
d. 8 yd

17. A 40-foot-long support wire for a 10-foot tall post runs from the top corner of a building to a point on the ground, forming a straight line. The length of the wire from the top of the building to the top of the light post is 15 feet. How tall is the building?



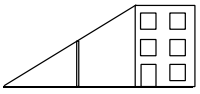
a. 3.8 ft
b. 16.0 ft
c. 25.0 ft
d. 26.7 ft

18. A 48-foot-long support wire for a 8-foot tall light pole runs from the top corner of a building to a point on the ground, forming a straight line. The length of the wire from the top of the building to the top of the light pole is 32 feet. How tall is the building?



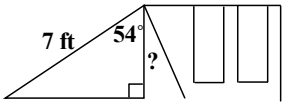
a. 12 ft
b. 16 ft
c. 24 ft
d. 64 ft

19. A 50-foot-long support wire for a light pole runs from the top corner of a 35-foot-tall building to a point on the ground, forming a straight line. The length of the wire from the top of the building to the top of the light pole is 20 feet. How tall is the light pole?



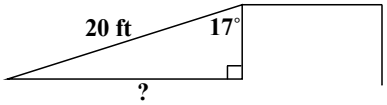
a. 12 ft
b. 14 ft
c. 21 ft
d. 52.5 ft

20. In the diagram shown, a 7-foot slide is attached to a swing set. The slide makes a 54˚ angle with the swing set. Which answer most closely represents the height of the slide?



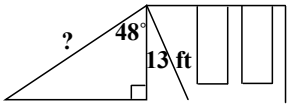
a. 4.1 ft
b. 5.7 ft
c. 9.6 ft
d. 11.9 ft

21. In the diagram shown, a 20-foot ramp is attached to a platform. The ramp makes a 17˚ with the platform. Which answer most closely represents horizontal distance from the base of the ramp to the platform?



a. 4.6 ft
b. 5.8 ft
c. 6.1 ft
d. 19.1 ft

22. In the diagram shown, a 13-foot tall slide is attached to a swing set. The slide makes a 48˚ angle with the swing set. Which answer most closely represents the length of the slide?



a. 8.7 ft
b. 9.7 ft
c. 14.3 ft
d. 19.4 ft

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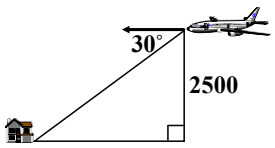
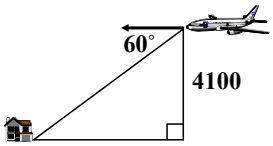
23. Joanna is flying an airplane at an altitude of 2500 ft. She sees her house on the ground at a 30° angle of depression. What is Joanna's horizontal distance from her house at this point?



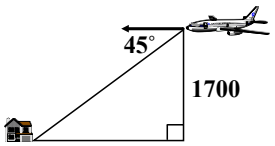
a. 1250.0 ft
b. 1443.4 ft
c. 2165.1 ft
d. 4330.1 ft

24. Robert (who has amazing eyesight) is flying an airplane at an altitude of 4100 ft. He sees his house on the ground at a 60° angle of depression. What is Robert's horizontal distance from his house at this point?



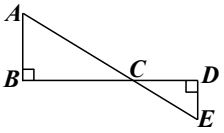
a. 7101.4 ft
b. 3500.7 ft
c. 2050.0 ft
d. 2367.1 ft

25. Joseph is flying an airplane at an altitude of 1700 ft. He sees his house on the ground at a 45° angle of depression. What is Joseph's horizontal distance from his house at this point?



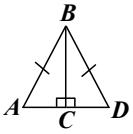
a. 85 ft
b. 170 ft
c. 850 ft
d. 1700 ft

26. Which are NOT valid conclusions that you can draw from this picture?



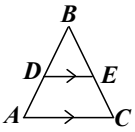
a. $\triangle ABC \cong \triangle EDC$
b. $\triangle ABC \sim \triangle EDC$
c. Slope of $\overline{AC}$ = slope of $\overline{CE}$
d. $\frac{BC}{AC} = \frac{DC}{ED}$
e. $\overline{AC} \cong \overline{EC}$
f. $\frac{BC}{AC} = \frac{DC}{EC}$
g. $\overline{AB} \cong \overline{ED}$

27. Which are NOT valid conclusions that you can draw from this picture?



a. $\triangle ABC \cong \triangle DBC$
b. $\triangle ABC \sim \triangle DBC$
c. Slope of $\overline{AB}$ = slope of $\overline{DB}$
d. $\frac{BC}{AC} = \frac{BC}{BD}$
e. $\overline{AB} \cong \overline{AD}$
f. $\overline{AC} \cong \overline{DC}$
g. $\overline{BC} \cong \overline{CB}$

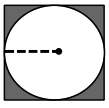
28. Which are NOT valid conclusions that you can draw from this picture?



a. $\triangle ABC \cong \triangle DBE$
b. $\triangle ABC \sim \triangle DBE$
c. Slope of $\overline{AD}$ = slope of $\overline{DB}$
d. $\frac{DB}{DE} = \frac{AB}{CB}$
e. $\frac{DB}{EB} = \frac{AB}{CB}$
f. $\overline{AC} \cong \overline{DE}$
g. $\overline{DB} \cong \overline{EB}$

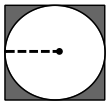
29. Which of the following statements are true?
a. The consecutive angles of a rectangle will always be both congruent and supplementary
b. The diagonals of a rectangle will always bisect the vertex angles
c. The opposite sides of a rectangle will always be congruent
d. A rectangle will have exactly one pair of parallel opposite sides
e. The diagonals of a rectangle will always be congruent
f. A quadrilateral whose opposite sides are parallel will always be a rectangle.
g. The diagonals on a rectangle will always be perpendicular

30. A circle is inscribed in a square. If the radius of the circle is 6 meters, what is the area of the shaded region?



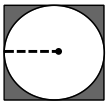
a. $36 - 9\pi$
b. $36 - 36\pi$
c. $144 - 9\pi$
d. $144 - 36\pi$

31. A circle is inscribed in a square. If the radius of the circle is 12 meters, what is the area of the shaded region?



a. $576 - 36\pi$
b. $576 - 144\pi$
c. $144 - 36\pi$
d. $144 - 144\,\pi$

32. A circle is inscribed in a square. If the radius of the circle is 4 meters, what is the area of the shaded region?



a. $16 - 16\pi$
b. $16 - 4\pi$
c. $64 - 16\pi$
d. $64 - 4\pi$

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33. The volume of a cone is 308 cubic centimeters and the height of the cone is 16 centimeters. What is the radius of the cone to the nearest whole number?
    a. 2 centimeters
    b. 4 centimeters
    c. 6 centimeters
    d. 18 centimeters

34. The volume of a cone is 116 cubic centimeters and the height of the cone is 20 centimeters. What is the radius of the cone to the nearest whole number?
    a. 1 centimeters
    b. 2 centimeters
    c. 4 centimeters
    d. 6 centimeters

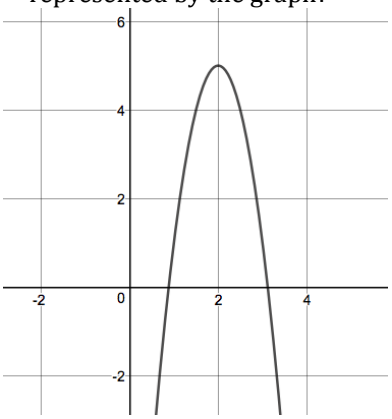
35. The volume of a cone is 524 cubic centimeters and the height of the cone is 17 centimeters. What is the radius of the cone to the nearest whole number?
    a. 3 centimeters
    b. 5 centimeters
    c. 10 centimeters
    d. 29 centimeters

36. Which function represents a parabola that is translated 5 units to the right and 6 down from the function $f(x) = x^2$?
    a. $f(x) = 7(x+5)^2 + 6$
    b. $f(x) = 11(x-5)^2 - 6$
    c. $f(x) = 9(x+5)(x+6)$
    d. $f(x) = -4(x-5)(x-6)$

37. Which function represents a parabola that is translated 4 units to the left and 9 down from the function $f(x) = x^2$?
    a. $f(x) = -6(x+4)(x-9)$
    b. $f(x) = 8(x-4)(x+9)$
    c. $f(x) = 2(x+4)^2 - 9$
    d. $f(x) = -3(x-4)^2 + 9$

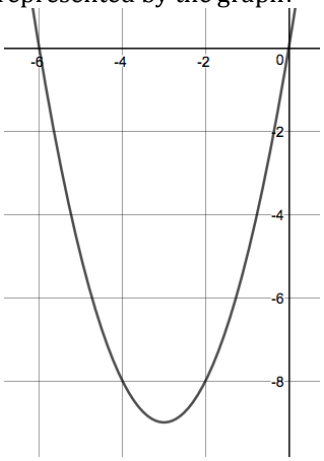
38. Which function represents a parabola that is translated 7 units to the right and 1 up from the function $f(x) = x^2$?
    a. $f(x) = -2(x-7)^2 + 1$
    b. $f(x) = 6(x+7)^2 - 1$
    c. $f(x) = 5(x-7)(x+1)$
    d. $f(x) = 9(x+7)(x-1)$

39. What is the range of the function represented by the graph?



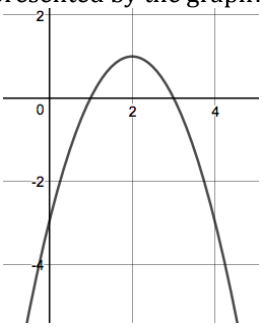
    a. All real numbers greater than or equal to 1.
    b. All real numbers less than or equal to 5.
    c. All real numbers greater than or equal to 3.
    d. All real numbers less than or equal to 2.

40. What is the range of the function represented by the graph?



    a. All real numbers greater than or equal to -6.
    b. All real numbers less than or equal to 0.
    c. All real numbers greater than or equal to -9.
    d. All real numbers less than or equal to -3.

41. What is the range of the function represented by the graph?



    a. All real numbers greater than or equal to -3.
    b. All real numbers less than or equal to 2.
    c. All real numbers greater than or equal to 3.
    d. All real numbers less than or equal to 1.

42. Which expression is equivalent to the expression?
    $(5x^3 - 6x) + (x^3 - 4x^2 - 10)$
    a. $6x^3 - 4x^2 - 6x - 10$
    b. $5x^3 - 10x^2 - 10$
    c. $6x^3 - 10x^2 - 10$
    d. $5x^3 - 2x^2 - 10x - 10$

43. Which expression is equivalent to the expression?
    $(7x^4 - 9) + (-8x^4 - 3x^3 + 4x)$
    a. $-x^4 - 12x^3 + 4x$
    b. $-15x^4 - 3x^3 + 4x - 9$
    c. $-15x^4 - 12x^3 + 4x$
    d. $-x^4 - 3x^3 + 4x - 9$

44. Which expression is equivalent to the expression?
    $(8x^3 + 3x) + (-2x^4 - 6x^3 - 9x)$
    a. $6x^4 - 3x^3 - 9x$
    b. $-2x^4 - 6x^3 + 8x^2 + 6x$
    c. $-2x^4 + 2x^3 - 6x$
    d. $-2x^4 + 2x^3 - 9x^2 + 3x$

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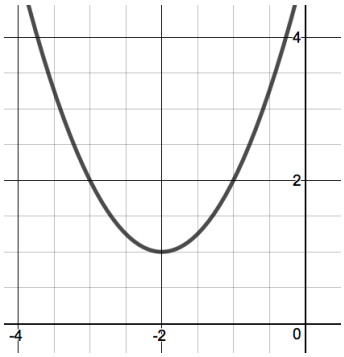
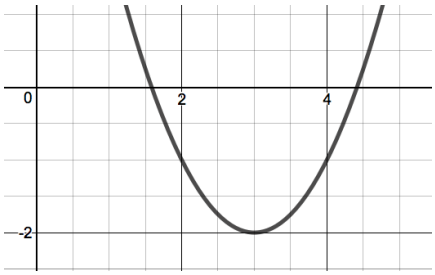
45. How is this graph different from a graph of the function $f(x) = x^2$?



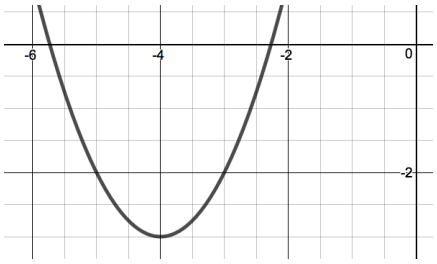
a. It is translated 2 unit to the left and 1 units up.
b. It is translated 1 unit to the right and 2 units up.
c. It is translated 2 units to the right and 1 units up.
d. It is translated 1 unit to the left and 2 units up.

46. How is this graph different from a graph of the function $f(x) = x^2$?



a. It is translated 3 units to the left and 2 units down.
b. It is translated 2 units to the right and 3 units down.
c. It is translated 3 units to the right and 2 units down.
d. It is translated 2 units to the left and 3units down.

47. How is this graph different from a graph of the function $f(x) = x^2$?



a. It is translated 4 units to the left and 3 units down.
b. It is translated 3 units to the right and 4 units down.
c. It is translated 4 units to the right and 3 units down.
d. It is translated 3 units to the left and 4 units down.

48. Which is equivalent to the expression?

$(2x - 16)^2$

a. $4x^2 + 256$
b. $4x^2 - 256$
c. $4x^2 - 64x + 256$
d. $4x^2 + 64x + 256$

49. Which is equivalent to the expression?

$(7x - 11)^2$

a. $49x^2 - 154x - 121$
b. $49x^2 - 154x + 121$
c. $49x^2 - 121$
d. $49x^2 + 121$

50. Which is equivalent to the expression?

$(5x - 18)^2$

a. $25x^2 + 324$
b. $25x^2 - 180x + 324$
c. $25x^2 + 180x + 324$
d. $25x^2 - 90x + 324$

51. What is the product of the polynomials?

$x - 3$ and $3x^2 - x + 6$

a. $3x^3 + 8x + 3x + 18$
b. $3x^3 - 10x^2 + 9x - 18$
c. $3x^3 + 10x^2 + 9x - 18$
d. $3x^3 - 8x^2 + 9x + 18$

52. What is the product of the polynomials?

$x + 7$ and $8x^2 - 9x - 7$

a. $8x^3 + 65x^2 - 70x - 49$
b. $8x^3 - 47x^2 + 70x + 49$
c. $8x^3 - 65x^2 + 70x - 49$
d. $8x^3 + 47x^2 - 70x - 49$

53. What is the product of the polynomials?

$x + 2$ and $-3x^2 + 5x - 5$

a. $3x^3 + 11x^2 + 5x - 10$
b. $3x^3 + 11x^2 + 15x + 10$
c. $-3x^3 - x^2 + 5x - 10$
d. $-3x^3 - x^2 + 15x + 10$

54. Under which operations are the set of whole numbers NOT closed?

a. Addition
b. Subtraction
c. Multiplication
d. Division

55. Under which operations are the set of natural numbers NOT open?

a. Addition
b. Subtraction
c. Multiplication
d. Division

56. Under which operations are the set of integers NOT open?

a. Addition
b. Subtraction
c. Multiplication
d. Division

57. What are the roots of the quadratic equation?

$y = 4x^2 + 23x + 15$

a. $x = 0.75$ and $x = 5$
b. $x = -0.75$ and $x = -5$
c. $x = -3$ and $x = -5$
d. $x = 3$ and $x = 5$

58. What are the roots of the quadratic equation?

$y = 5x^2 - 10x - 40$

a. $x = -4$ and $x = 10$
b. $x = 4$ and $x = 10$
c. $x = -4$ and $x = 2$
d. $x = 4$ and $x = -2$

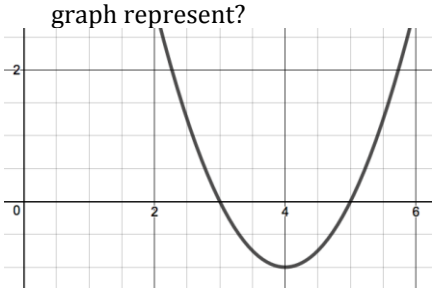
59. What are the roots of the quadratic equation?

$y = 5x^2 + 11x + 6$

a. $x = -1.2$ and $x = -1$
b. $x = 1.2$ and $x = 1$
c. $x = -6$ and $x = -1$
d. $x = 6$ and $x = 1$

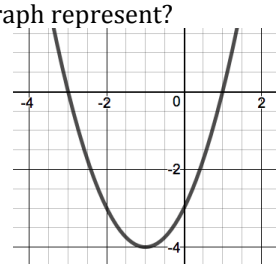
Name: _____

60. Which polynomial does the graph represent?



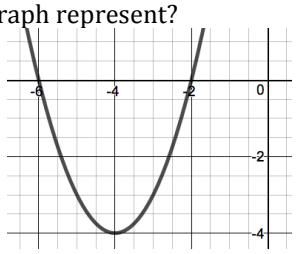
a. $y = (x + 3)(x + 5)$
b. $y = (x + 3)(x - 5)$
c. $y = (x - 3)(x + 5)$
d. $y = (x - 3)(x - 5)$

61. Which polynomial does the graph represent?



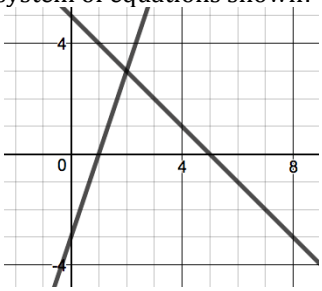
a. $y = (x + 1)(x + 3)$
b. $y = (x + 1)(x - 3)$
c. $y = (x - 1)(x + 3)$
d. $y = (x - 1)(x - 3)$

62. Which polynomial does the graph represent?



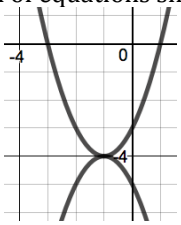
a. $y = (x + 2)(x + 6)$
b. $y = (x + 2)(x - 6)$
c. $y = (x - 2)(x + 6)$
d. $y = (x - 2)(x - 6)$

63. What are the solution(s) to the system of equations shown?



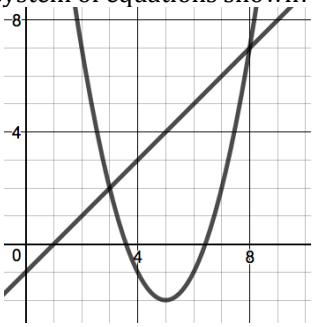
a. $(2, 3)$
b. $(0, -3)$ and $(0, 5)$
c. $(1, 0)$ and $(5, 0)$
d. $(3, 2)$

64. What are the solution(s) to the system of equations shown?



a. $(-3, 0)$ and $(1,0)$
b. $(0, -3)$ and $(0, -5)$
c. $(-1, -4)$
d. $(1, -3)$

65. What are the solution(s) to the system of equations shown?



a. $(3.6, 0)$ and $(6.4, 0)$
b. $(3, 2)$ and $(8, 7)$
c. $(1, 0)$
d. $(0, -1)$

66. In which sets does the number 7.2 NOT belong?
a. Rational numbers
b. Integers
c. Whole Numbers
d. Natural Numbers
e. Irrational Numbers
f. Real Numbers
g. Imaginary Numbers

67. In which sets does the number -3 NOT belong?
a. Rational numbers
b. Integers
c. Whole Numbers
d. Natural Numbers
e. Irrational Numbers
f. Real Numbers
g. Imaginary Numbers

68. In which sets does the number $\sqrt{11}$ NOT belong?
a. Rational numbers
b. Integers
c. Whole Numbers
d. Natural Numbers
e. Irrational Numbers
f. Real Numbers
g. Imaginary Numbers

69. Which of the following statements are not true?
a. An isosceles triangle cannot have three sides that are all different lengths
b. The base is bisected by the altitude of an isosceles triangle
c. The altitude of an isosceles triangle does not create two congruent triangles
d. An isosceles triangle can have three congruent sides
e. The vertex angle on an isosceles triangle is bisected by the altitude
f. The base angles on an isosceles triangle are not congruent
g. On an isosceles triangle, the perpendicular bisector of the base is the altitude

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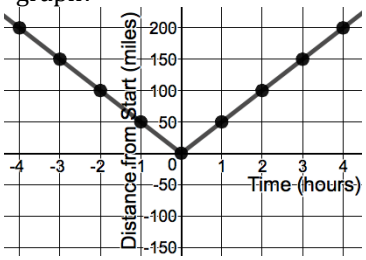
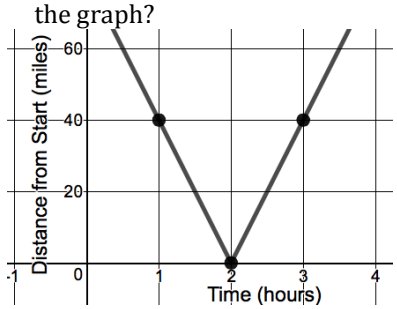
70. A regional train passes by a certain train station halfway along its trip each day. The graph models the train traveling at a constant speed. Which equation best represents the graph?



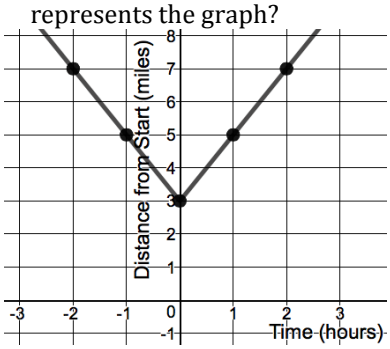
a. $f(x) = |x + 50|$
b. $f(x) = |50 - x|$
c. $f(x) = |x| + 50$
d. $f(x) = |50x|$

71. George's car passes by his childhood home 2 hours after the halfway mark on his road trip. The graph models the car traveling at a constant speed. Which equation best represents the graph?



a. $f(x) = |40x| + 2$
b. $f(x) = |2x + 40|$
c. $f(x) = |40x - 80|$
d. $f(x) = |80x - 40|$

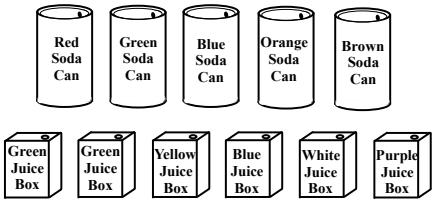
72. A marathon runner passes by a street corner 3 miles away from her house halfway along her route. The graph models the jogger traveling at a constant speed. Which equation best represents the graph?



a. $f(x) = |2x| + 3$
b. $f(x) = |2x + 3|$
c. $f(x) = |3x| + 2$
d. $f(x) = |3x + 2|$

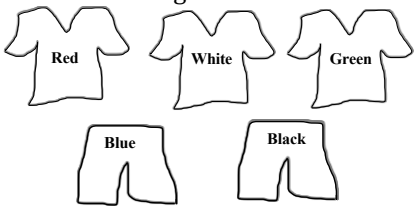
73. Which of the following are NOT true?
a. Two lines can intersect at exactly two distinct points
b. The intersection of a plane and a line can happen at exactly three distinct points
c. Two planes can have an infinite number of intersection points
d. A line and a plane may have no points of intersection
e. Two planes can intersect each other at a single point
f. A line can intersect a plane at a single point
g. A line can intersect a plane at an infinite number of points

74. You have 5 soda cans and 6 juice boxes in a cooler, as shown in the diagram. You randomly choose one soda and one juice box from the cooler.



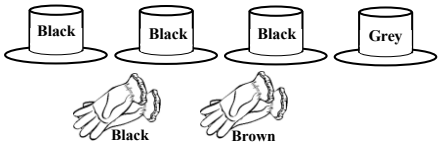
a. How many different combinations of 1 soda and 1 juice box are there? Show your calculations.
b. What is the probability of choosing a blue soda can or a purple juice box?
c. What is the probability of choosing a blue soda can and a purple juice box?

75. You have 3 shirts and 2 pairs of shorts in a bag, as shown in the diagram. You randomly choose one shirt and one pair of shorts from the bag.



a. How many different combinations of 1 shirt and 1 pair of shorts are there? Show your calculations.
b. What is the probability of choosing a red shirt and black shorts?
c. What is the probability of choosing a red shirt or black shorts?

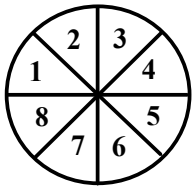
76. There are 4 top hats and 2 pairs of gloves on Abraham Lincoln's shelf, as shown in the diagram. Honest Abe randomly chooses one hat and one pair of gloves from the shelf.



a. How many different combinations of 1 hat and 1 pair of gloves are there? Show your calculations.
b. What is the probability of choosing a black hat and a pair of black gloves?
c. What is the probability of choosing black hat or black gloves?

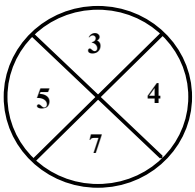
Name: _____

77. Marcus randomly spins the spinner.



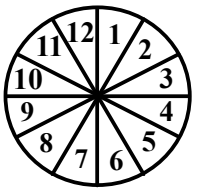
If he spins three times, what is the probability that he will spin a number less than 3 each time? Show your reasoning.

78. Eddie randomly spins the spinner.



If he spins twice, what is the probability that he will spin a number greater than or equal to 4 each time? Show your reasoning.

79. Angela randomly spins the spinner.



If she spins four times, what is the probability that she will spin a number less than 8 and greater than 4 each time? Show your reasoning.

80. A small rocket on a lunar outpost around Jupiter was launched from a 60-meter platform. The height of the rocket is modeled by the function $h(t) = -3t^2 + 3t + 60$, where t is time in seconds and $h(t)$ is the height of the rocket in meters.
    a. What will be the value of $h(t)$ when the rocket hits the ground?
    b. Find the time when the rocket hits the ground, clearly showing how you used the equation.

81. A small rocket on a lunar outpost around Jupiter was launched from a 12-meter platform. The height of the rocket is modeled by the function $h(t) = -4t^2 + 8t + 12$, where t is time in seconds and $h(t)$ is the height of the rocket in meters.
    a. What will be the value of $h(t)$ when the rocket hits the ground?
    b. Find the time when the rocket hits the ground, clearly showing how you used the equation.

82. A small rocket on a lunar outpost around Jupiter was launched from a 70-meter platform. The height of the rocket is modeled by the function $h(t) = -2x^2 + 4x + 70$, where t is time in seconds and $h(t)$ is the height of the rocket in meters.
    a. What will be the value of $h(t)$ when the rocket hits the ground?
    b. Find the time when the rocket hits the ground, clearly showing how you used the equation.

Integrated 2 Post-Test Study Guide
Answers:

1. B, C, G	2. C	3. B	4. D	5. B	6. A
7. D	8. B or C	9. A	10. A	11. D	12. B
13. A	14. A	15. B	16. D	17. B	18. C
19. C	20. A	21. B	22. D	23. D	24. D
25. D	26. A, D, E, G	27. C, D, E	28. A, D, F, G	29. A, C, E	30. D
31. B	32. C	33. B	34. B	35. B	36. B
37. C	38. A	39. B	40. C	41. D	42. A
43. D	44. C	45. A	46. C	47. A	48. C
49. B	50. B	51. B	52. D	53. C	54. B, D
55. A, C	56. A, B, C	57. B	58. D	59. A	60. D
61. C	62. A	63. A	64. C	65. B	66. B, C, D, E, G
67. C, D, E, G	68. A, B, C, D, G	69. A, C, F	70. D	71. C	72. A
73. A, B, E	74. a. (5)(6) = 30 b. $\frac{1}{3}$ c. $\frac{1}{30}$		75. a. (3)(2) = 6 b. $\frac{1}{6}$ c. $\frac{2}{3}$	76. a. (4)(2) = 8 b. $\frac{3}{8}$ c. $\frac{7}{8}$	
77. $\frac{1}{64}$	78. $\frac{9}{16}$	79. $\frac{1}{256}$	80. a. 0 b. 5 sec	81. a. 0 b. 3 sec	82. a. 0 b. 7 sec