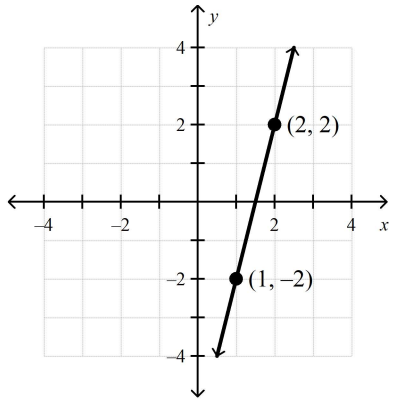
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Math 7B8 Trimester 2 Benchmark Review

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

Find the slope of the line.

1.



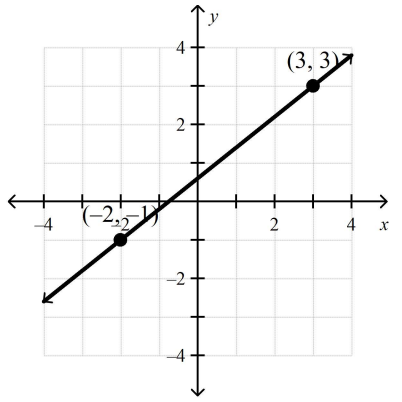
a. –4

b. 4

c. $-\frac{1}{4}$

d. $\frac{1}{4}$

2.

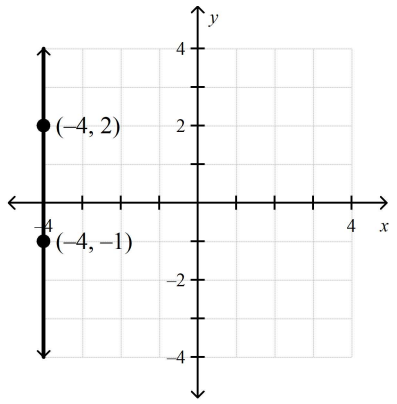


a. $-\frac{4}{5}$

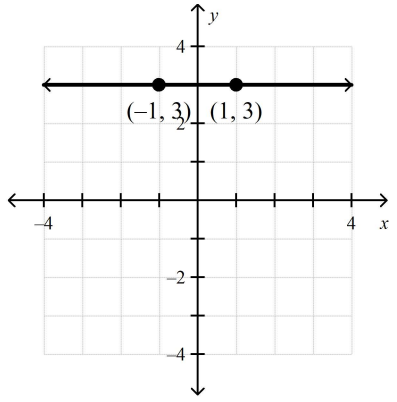
b. $-\frac{5}{4}$

c. $\frac{5}{4}$

d. $\frac{4}{5}$

3. 

a. 0
b. undefined
c. –1
d. 1

4. 

a. 1
b. –0
c. –1
d. –2

Write in slope-intercept form an equation of the line that passes through the given points.

5. (5, 4), (10, 8)
a. $y = \frac{5}{4}x - \frac{9}{4}$
b. $y = \frac{4}{5}x$
c. $y = \frac{4}{5}x - 2$
d. $y = 3x - 11$

6. (–2, –2), (4, 10)
a. $y = 2x + 4$
b. $y = \frac{1}{2}x - 8$
c. $y = 2x + 2$
d. $y = 6x + 10$

Find the slope and the *y*-intercept of the graph of the linear equation.

7. $-4y + 2x = -16$
a. slope: $\frac{1}{2}$; y-intercept: 4
b. slope: $-\frac{1}{16}$; y-intercept: $\frac{1}{2}$
c. slope: 2; y-intercept: $\frac{1}{2}$
d. slope: $\frac{1}{2}$; y-intercept: –16

8. $y = 8x + 9$

   a. slope: $\frac{1}{8}$; y-intercept: 9
   c. slope: $\frac{1}{9}$; y-intercept: 8
   b. slope: 9; y-intercept: 8
   d. slope: 8; y-intercept: 9

9. $4x + y = 5$

   a. slope: –4; y-intercept: 5
   c. slope: $\frac{1}{4}$; y-intercept: 5
   b. slope: 4; y-intercept: 5
   d. slope: 5; y-intercept: 4

Write in point-slope form an equation of the line that passes through the given point and has the given slope.

10. (3, 0); $m = -\frac{2}{3}$

    a. $y + 3 = -\frac{2}{3}(x - 0)$
    c. $y - 0 = -\frac{2}{3}(x - 3)$
    b. $y + 0 = -\frac{2}{3}(x + 3)$
    d. $y - 3 = -\frac{2}{3}(x - 0)$

11. A line passes through the point (1,3) and has a slope of 2. Which of these points also lies on this line?

    a. (1,5)
    c. (3,5)
    b. (2,6)
    d. (3,7)

Name the word that matches the definition given.

12. The change in y between any two points on a line

    a. x-intercept
    d. rise
    b. solution to a linear equation
    e. run
    c. slope
    f. y-intercept

13. A linear equation written in the form $y = mx + b$ is in ____.

    a. x-intercept
    d. point-slope form
    b. slope-intercept form
    e. run
    c. standard form
    f. y-intercept

14. A relation that pairs each input with exactly one output.

    a. input
    d. mapping diagram
    b. output
    e. function
    c. relation
    f. function rule

15. Two angles that share a common side and have the same vertex

    a. adjacent angles
    d. complementary angles
    b. vertical angles
    e. supplementary angles
    c. congruent angles
    f. congruent sides

16. Two angles whose measures have a sum of 90°
    a. adjacent angles
    b. vertical angles
    c. congruent angles
    d. complementary angles
    e. supplementary angles
    f. congruent sides

17. Two angles whose measures have a sum of 180°
    a. adjacent angles
    b. vertical angles
    c. congruent angles
    d. complementary angles
    e. supplementary angles
    f. congruent sides

18. A scale without units
    a. kite
    b. scale drawing
    c. scale model
    d. scale
    e. scale factor
    f. congruent sides

19. The ____ of a linear equation is $ax + by = c$ where a and b are not both zero.
    a. x-intercept
    b. slope-intercept form
    c. standard form
    d. point-slope form
    e. run
    f. y-intercept

20. A linear equation written in the form $y - y_1 = m(x - x_1)$ is in ____.
    a. x-intercept
    b. slope-intercept form
    c. standard form
    d. point-slope form
    e. run
    f. y-intercept

21. A way to represent a relation.
    a. input
    b. output
    c. relation
    d. mapping diagram
    e. function
    f. function rule

22. The angles opposite each other when two lines intersect
    a. adjacent angles
    b. vertical angles
    c. congruent angles
    d. complementary angles
    e. supplementary angles
    f. congruent sides

23. A quadrilateral with two pairs of congruent adjacent sides and opposite sides that are not congruent
    a. kite
    b. scale drawing
    c. scale model
    d. scale
    e. scale factor
    f. congruent sides

24. A proportional, two-dimensional drawing of an object
    a. kite
    b. scale drawing
    c. scale model
    d. scale
    e. scale factor
    f. congruent sides

25. A proportional, three-dimensional model of an object
    a. kite
    b. scale drawing
    c. scale model
    d. scale
    e. scale factor
    f. congruent sides

26. A ratio that compares the measurements of a drawing or model with the actual measurements
    a. kite
    b. scale drawing
    c. scale model
    d. scale
    e. scale factor
    f. congruent sides

27. A number that, when multiplied by itself, equals a given number
    a. square root
    b. perfect square
    c. radical sign
    d. radicand
    e. cube root
    f. perfect cube

28. In any right triangle, the sum of the squares of the lengths of the legs is equal to the square of the length of the hypotenuse.
    a. theorem
    b. legs
    c. hypotenuse
    d. Pythagorean Theorem
    e. irrational number
    f. real number

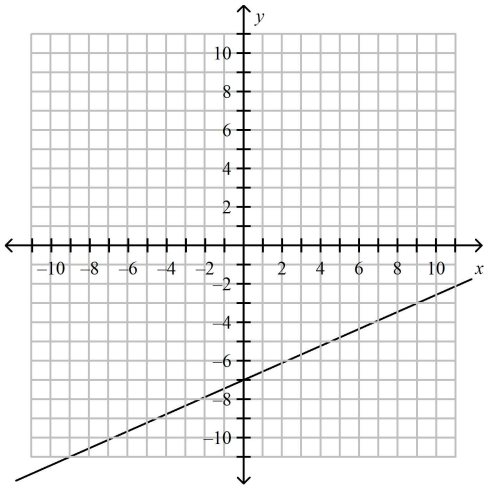
29. The two sides of a right triangle that form the right angle.
    a. theorem
    b. legs
    c. hypotenuse
    d. Pythagorean Theorem
    e. irrational number
    f. real number

30. The side of a right triangle that is opposite the right angle.
    a. theorem
    b. legs
    c. hypotenuse
    d. Pythagorean Theorem
    e. irrational number
    f. real number

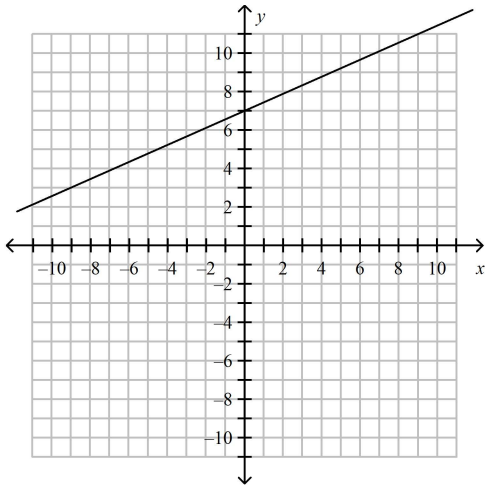
Graph the linear function using slope-intercept form.

31. $y = -\frac{4}{9}x + 7$

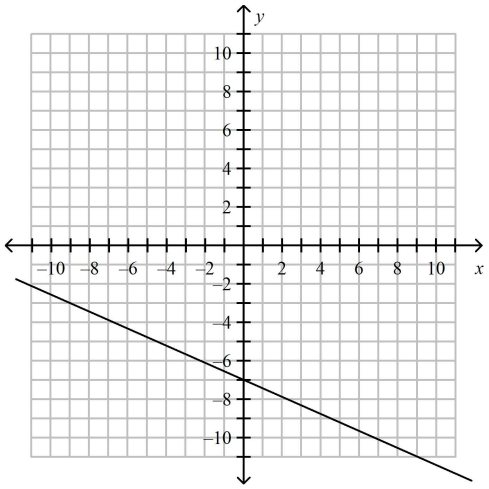
a.



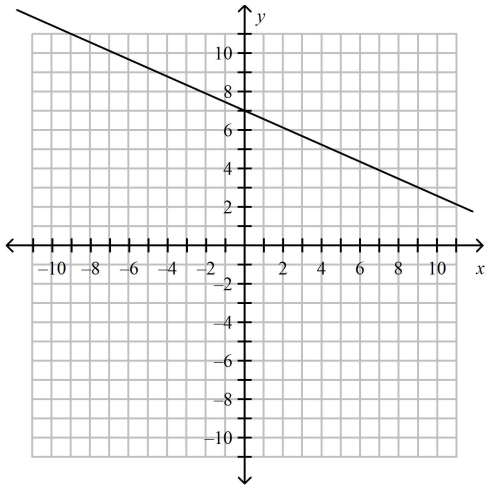
c.



b.

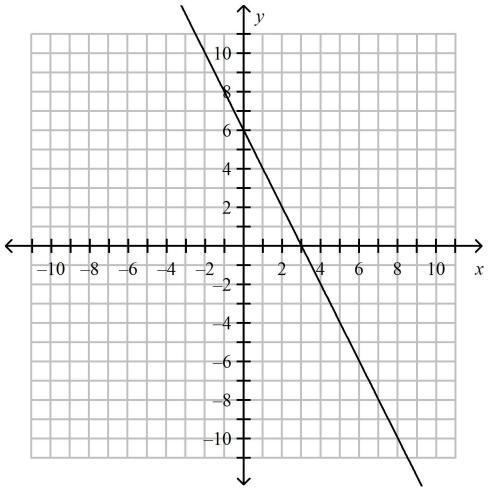


d.

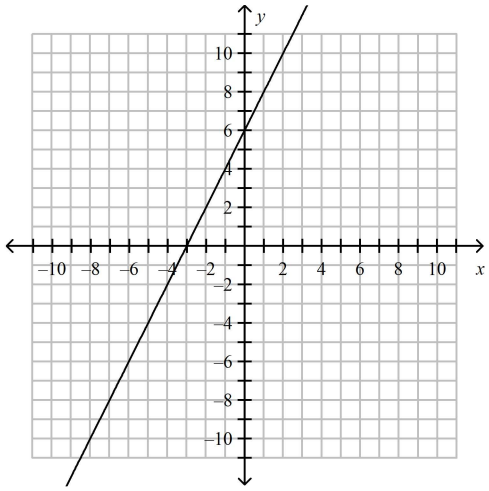


32. $y = 2x + 6$

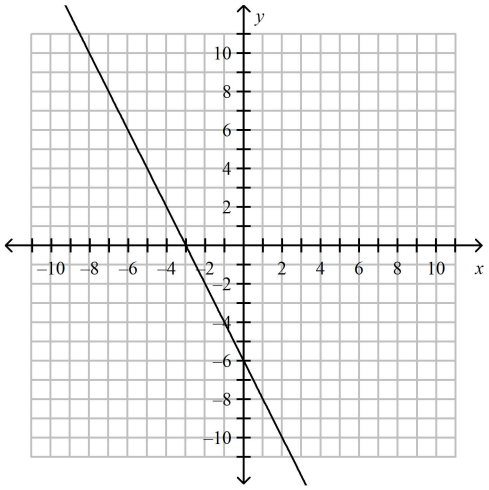
a.


y
x
10
8
6
4
2
−10 −8 −6 −4 −2 2 4 6 8 10
−2
−4
−6
−8
−10

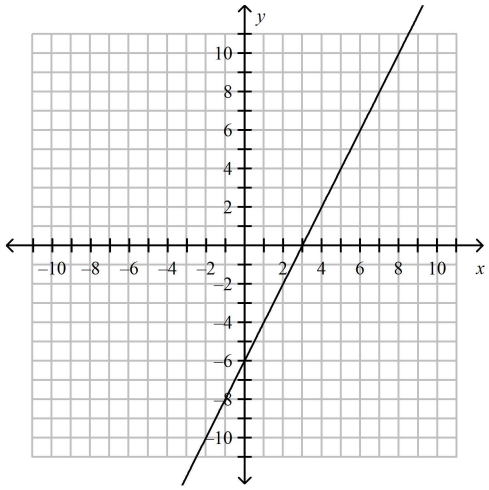
c.


y
x
10
8
6
4
2
−10 −8 −6 −4 −2 2 4 6 8 10
−2
−4
−6
−8
−10

b.

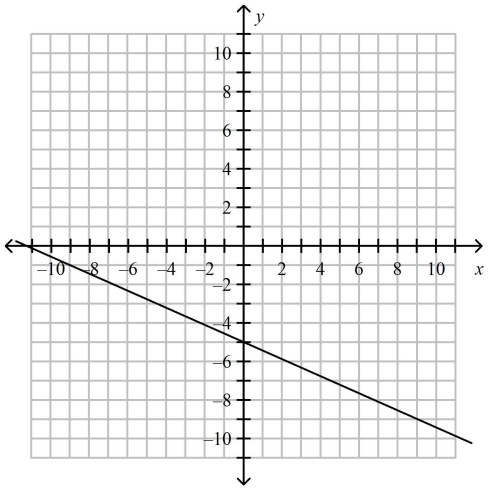

y
x
10
8
6
4
2
−10 −8 −6 −4 −2 2 4 6 8 10
−2
−4
−6
−8
−10

d.

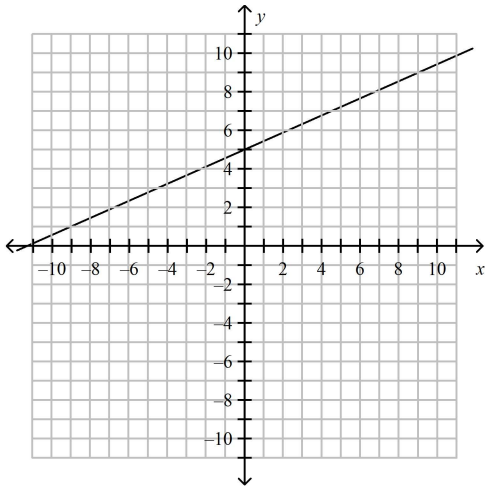

y
x
10
8
6
4
2
−10 −8 −6 −4 −2 2 4 6 8 10
−2
−4
−6
−8
−10

33. $-9y - 4x = -45$

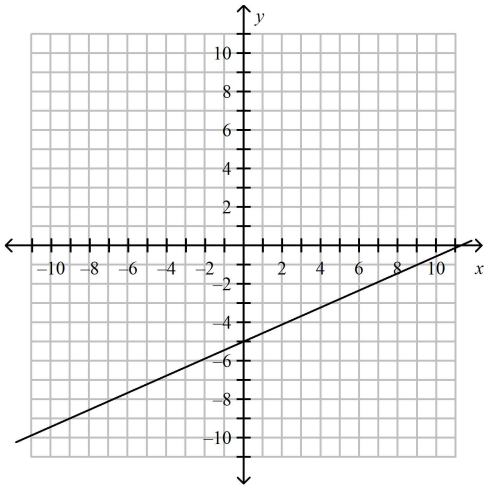
a.



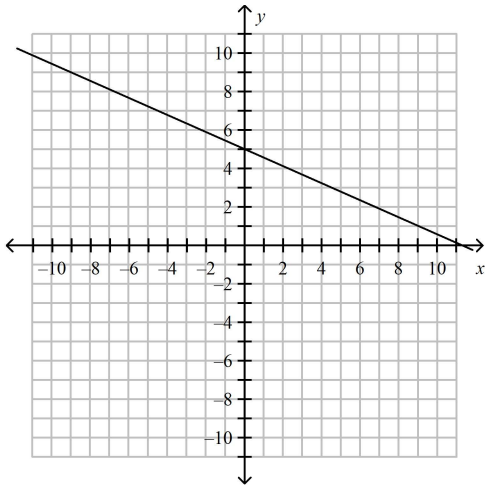
c.



b.

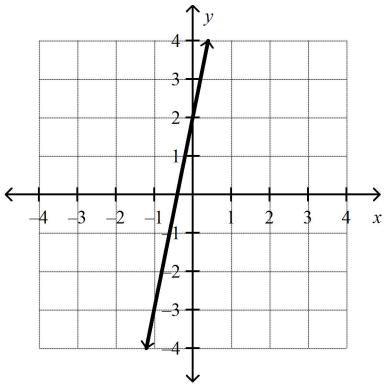


d.



Which linear equation represents the graph?

34.



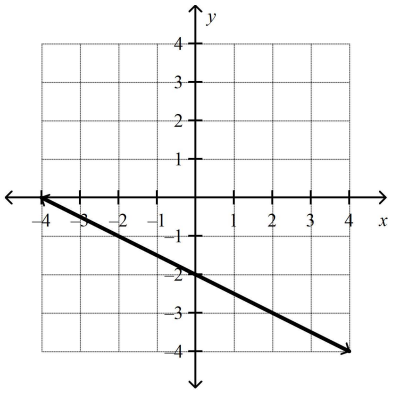
a. $y = \frac{1}{5}x + 3$

c. $y = 5x - 2$

b. $y = 5x + 2$

d. $y = -\frac{1}{5}x - 3$

35.



a. $y = -2x + 2$

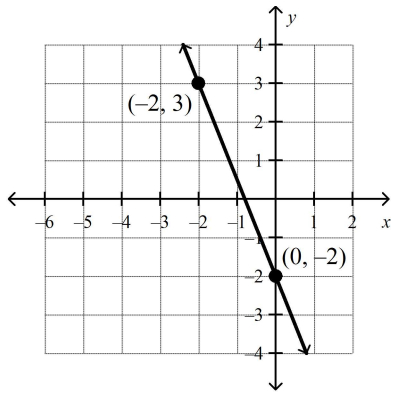
c. $y = \frac{1}{2}x - 2$

b. $y = 2x + 2$

d. $y = -\frac{1}{2}x - 2$

Write an equation of the line in slope-intercept form.

36.



a. $y = -\frac{5}{2}x - 2$

c. $y = -\frac{5}{2}x + 2$

b. $y = -\frac{2}{5}x + 2$

d. $y = -\frac{2}{5}x - 2$

Write an equation of the line that passes through the points.

37. (–1, 5), (0, 5)

a. $y = -10x + -5$

c. $y = -1$

b. $y = 5$

d. $y = -\frac{1}{10}x + \frac{49}{10}$

Use the graph or table to write a linear function that relates *y* to *x*.

38.

x	–3	0	3	6
y	7	3	–1	–5

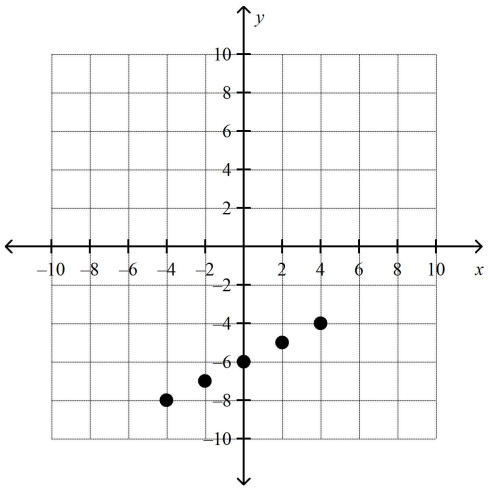
a. $y = -\frac{4}{3}x - 3$

c. $y = \frac{4}{3}x + 3$

b. $y = -\frac{4}{3}x + 3$

d. $y = -\frac{3}{4}x - 3$

39.



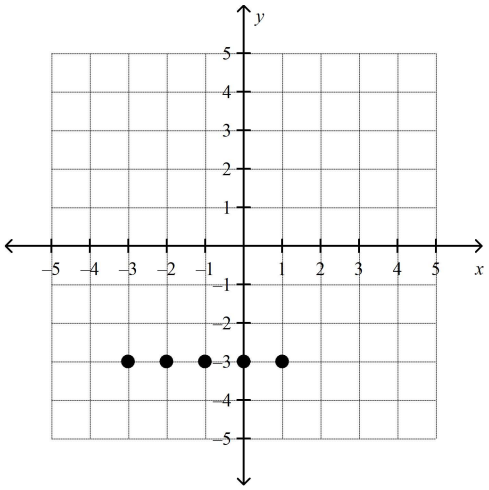
a. $y = \frac{1}{2}x + 6$

b. $y = 2x + 6$

c. $y = -\frac{1}{2}x - 6$

d. $y = \frac{1}{2}x - 6$

40.



a. $x = -3$

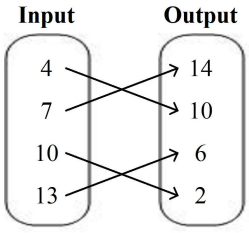
b. $y = -3$

c. $x = y - 3$

d. $y = x - 3$

List the ordered pairs shown in the mapping diagram.

41.



a. (4, 10), (7, 14), (10, 2), (13, 6)

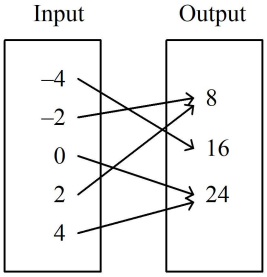
b. (4, 14), (7, 10), (10, 6), (13, 2)

c. (14, 7), (10, 4), (6, 13), (2, 10)

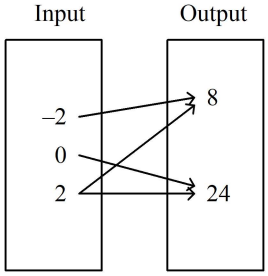
d. (4, 10), (7, 14), (10, 6), (13, 2)

42. Determine which relation is a function.

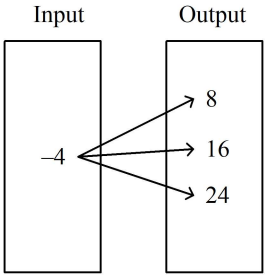
a.



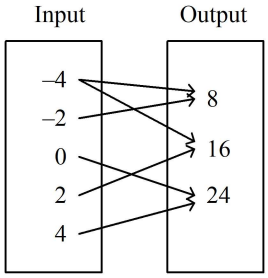
c.



b.

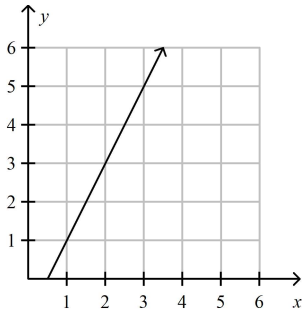


d.



Which function does the graph represent?

43.



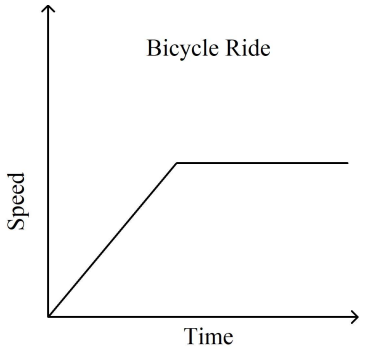
a. $y = x + 1$

b. $y = 0.5x$

c. $y = 2x - 1$

d. $y = x$

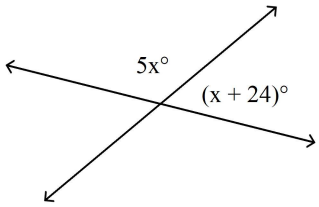
44. Describe the relationship between the two quantities.



a. The bike speed stays the same.
b. The bike speed increases over time at an decreasing rate.
c. The speed of the bicycle increases quickly, then stays at a constant speed.
d. The bike speed is constant at first and then increases steadily as time passes.

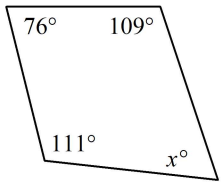
Find the value of x.

45.



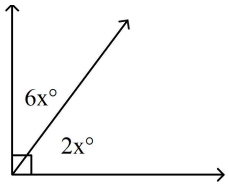
a. 26
b. 50
c. 130
d. 31

46.



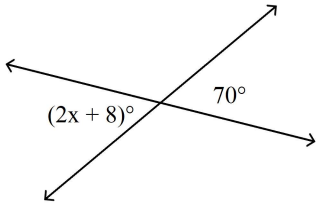
a. 58
b. 111
c. 67
d. 64

47.



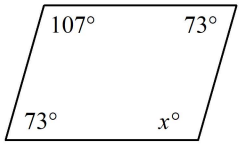
a. 11.25
b. 16.25
c. 58
d. 32

48.



a. 110
b. 59
c. 31
d. 27

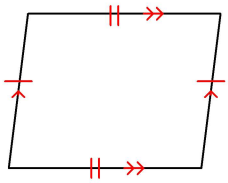
49.



a. 115
b. 73
c. 114
d. 107

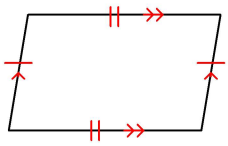
Classify the quadrilateral.

50.



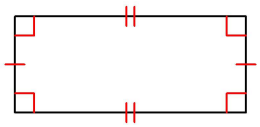
a. parallelogram
b. trapezoid
c. rhombus
d. kite

51.



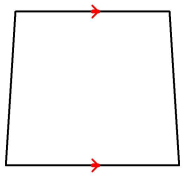
a. trapezoid
b. rhombus
c. parallelogram
d. kite

52.



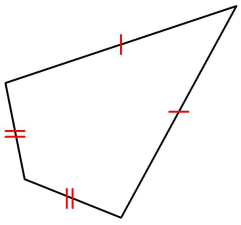
a. rectangle
b. parallelogram
c. rhombus
d. square

53.



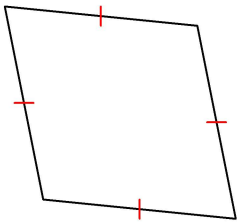
a. parallelogram
b. rhombus
c. kite
d. trapezoid

54.



a. rhombus
b. kite
c. trapezoid
d. parallelogram

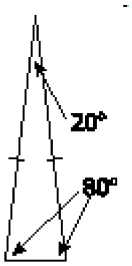
55.



a. rhombus
b. kite
c. square
d. parallelogram

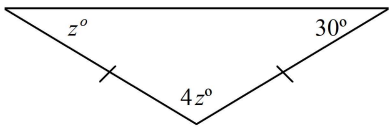
56. Which of the following are always congruent?
a. adjacent angles
b. vertical angles
c. complementary angles
d. supplementary angles

57. Which statement describes the triangle shown below?



a. It is isosceles and acute.
b. It is isosceles and obtuse.
c. It is scalene and acute.
d. It is scalene and obtuse.

58. Find the value of z. Then classify the triangle.



a. 30; obtuse isosceles triangle
b. 120; acute isosceles triangle
c. 120; obtuse equilateral triangle
d. 30; obtuse scalene triangle

59. Copy and complete using *always, sometimes,* or *never.*

A parallelogram is ____ a quadrilateral.

a. never
b. always
c. sometimes

Use the map to find the actual distance between the cities.

60. Panama City and Orlando
    a. 350 mi
    b. 275 mi
    c. 225 mi
    d. 550 mi

61. Naples and Miami
    a. 200 mi
    b. 175 mi
    c. 100 mi
    d. 50 mi

Find the missing dimension. Use the scale factor 1:12.

62.

Item	Model	Actual
Water Tower	Height: 257 cm	Height: __?__ m

    a. 30.84 m
    b. 2141.667 m
    c. 3.084 m
    d. 3084 m

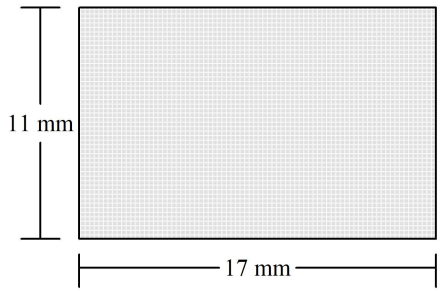
63.

Item	Model	Actual
Kitchen	Length: __?__ in.	Length: 16 ft

    a. 192 in.
    b. 18 in.
    c. 1.333 in.
    d. 16 in.

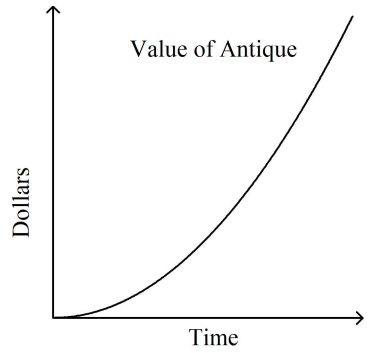
Find the actual area of the region.

64. The diagram of the pool has a scale of 1 mm : 4 ft.



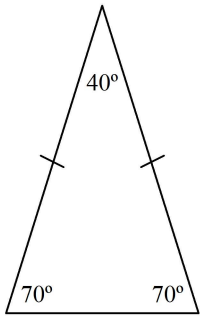
a. 748 ft^2
b. 3000 ft^2
c. 187 ft^2
d. 2992 ft^2

65. Describe the relationship between the two quantities.



a. The value of the antique increases rapidly at a constant rate.
b. The value of the antique decreases over time at an increasing rate.
c. The value of the antique starts off increasing slowly but increases more rapidly as time passes.
d. The value of the antique increases quickly at first and then increases more slowly as time passes.

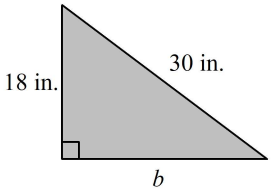
66. Classify the triangle.



a. acute scalene
b. acute isosceles
c. right scalene
d. obtuse isosceles

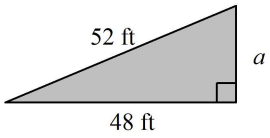
Find the missing length of the triangle.

67.



a. 24 in.
b. 23 in.
c. 35 in.
d. 26 in.

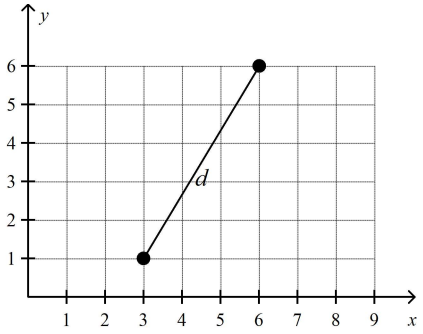
68.



a. 70.8 ft
b. 21 ft
c. 22 ft
d. 20 ft

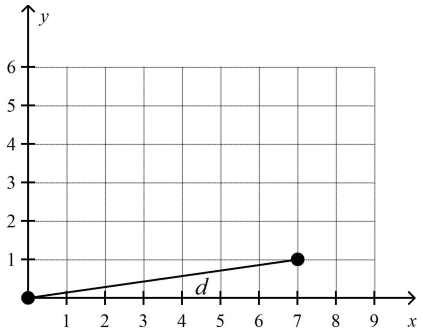
Find the distance *d*. Round your answer to the nearest tenth.

69.



a. 4.8 units
b. 4 units
c. 5.8 units
d. 8 units

70.



a. 8 units
b. 4 units
c. 6.1 units
d. 7.1 units

Math 7B8 Trimester 2 Benchmark Review
Answer Section

MULTIPLE CHOICE

1. B
2. D
3. B
4. B
5. B
6. C
7. A
8. D
9. A
10. C
11. D
12. D
13. B
14. E
15. A
16. D
17. E
18. E
19. C
20. D
21. D
22. B
23. A
24. B
25. C
26. D
27. A
28. D
29. B
30. C
31. D
32. C
33. D
34. B
35. D
36. A
37. B
38. B
39. D

40. B
41. A
42. A
43. C
44. C
45. A
46. D
47. A
48. C
49. D
50. A
51. C
52. A
53. D
54. B
55. A
56. B
57. A
58. A
59. B
60. B
61. C
62. A
63. D
64. D
65. C
66. B
67. A
68. D
69. C
70. D