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

Math 8 - Cumulative Review 2

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

Solve the equation. Check your solution.

1. $\frac{k}{-8} = 2$
   a. –16
   b. $-\frac{1}{4}$
   c. 10
   d. 16

2. $-0.8x = 7.2$
   a. –5.76
   b. 6.4
   c. –9
   d. 8

3. $2 = -\frac{1}{3}c$
   a. –5
   b. $\frac{1}{3}$
   c. 6
   d. –6

4. $-4 = z - 11$
   a. 7
   b. –15
   c. 0.36
   d. –7

5. $-13 = -0.5p$
   a. –13.5
   b. 26
   c. –12.5
   d. 6.5

6. $\frac{1}{2}(y - 36) = -12$
   a. 12
   b. 48
   c. –60
   d. –12

7. $5x + 10x - 54 = 66$
   a. –8
   b. 24
   c. 8
   d. $-\frac{44}{61}$

8. $24(2 - d) + 9d = 198$
   a. –10
   b. –7
   c. –16.4
   d. 4.5

9. $-6a = 2 - 9a$
   a. $1\frac{1}{2}$
   b. $-7\frac{1}{2}$
   c. $-\frac{2}{15}$
   d. $\frac{2}{3}$

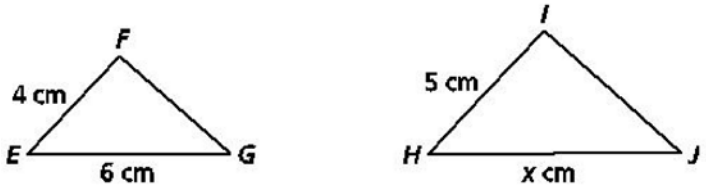
10. What value of x makes the equation below true?
    $5x + 9 = x + 20$
    a. 7.25
    b. 5.8
    c. 2.75
    d. 2.2

The polygons are similar. Find *x*.

11.

a. 8
b. 5
c. 4
d. 3

12. The figures are similar.



What is the value of *x*?

a. 4.8
b. 7
c. 7.5
d. 8

Name the word that matches the definition given.

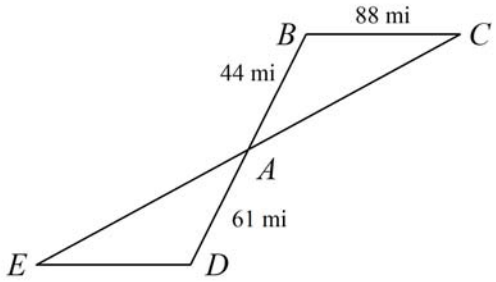
13. Figures that have the same size and the same shape
    a. congruent figures
    b. corresponding angles
    c. corresponding sides
    d. transformation
    e. image
    f. translation

14. Matching angles of two congruent figures
    a. congruent figures
    b. corresponding angles
    c. corresponding sides
    d. transformation
    e. image
    f. translation

15. A relation that pairs each input with exactly one output.
    a. input
    b. output
    c. relation
    d. mapping diagram
    e. function
    f. function rule

16. An equation that describes the relationship between inputs (independent variable) and outputs (dependent variable)
    a. input
    b. output
    c. relation
    d. mapping diagram
    e. function
    f. function rule

17. In the figure, $\triangle ABC \sim \triangle ADE$. Find the distance DE.



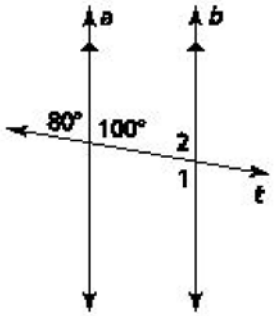
a. 122 mi
b. 63.5 mi
c. 112.3 mi
d. 121.8 mi

Find the sum of the interior angle measures of the polygon.

18.

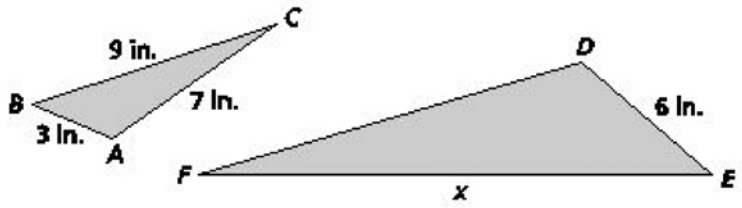
a. 360°
b. 720°
c. 380°
d. 270°

19. What is the measure of ∠1?



a. 80°
b. 90°
c. 100°
d. 180°

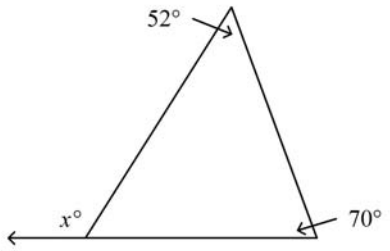
20. The figures are similar.



What is the value of x?

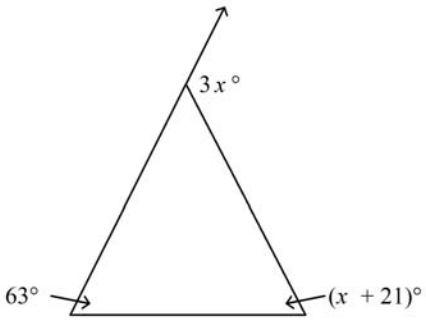
a. 2 inches
b. 7.7 inches
c. 14 inches
d. 18 inches

21. Find the measure of the exterior angle.



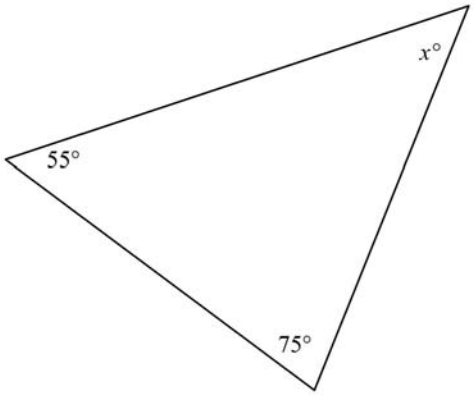
a. 70°
b. 52°
c. 122°
d. 58°

22. Find the measure of the exterior angle.



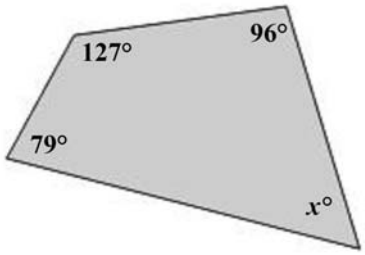
a. 126°
b. 42°
c. 24°
d. 63°

23. Find the measure of the interior angle.



a. 45°
b. 130°
c. 55°
d. 50°

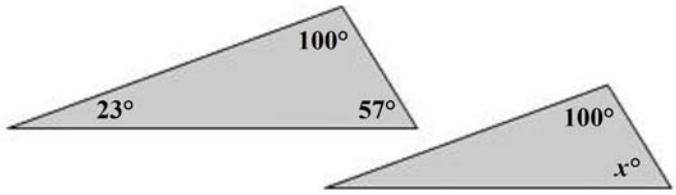
24.



a. 58°
b. 360°
c. 63°
d. 418°

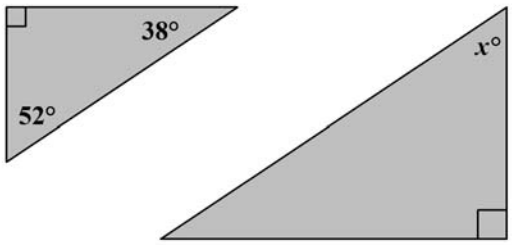
The triangles are similar. Find the value of *x*.

25.



a. 23
b. 57
c. 100
d. 123

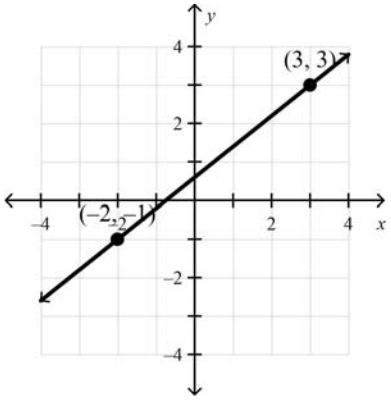
26.



a. 38
b. 14
c. 90
d. 52

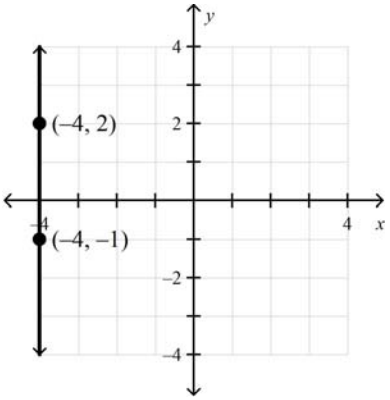
Find the slope of the line.

27.



a. $-\frac{4}{5}$
b. $-\frac{5}{4}$
c. $\frac{5}{4}$
d. $\frac{4}{5}$

28.



a. 0
b. undefined
c. –1
d. 1

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

29. (–2, 4), (3, 9)
a. $y = 4x - 3$
b. $y = 5x + 14$
c. $y = -x + 2$
d. $y = x + 6$

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

30. $y = \frac{2}{3}x + 9$

a. Slope: $\frac{3}{2}$; *y*-intercept: 9

b. Slope: $\frac{2}{3}$; *y*-intercept: 9

c. Slope: $\frac{1}{9}$; *y*-intercept: $\frac{2}{3}$

d. Slope: 2; *y*-intercept: $\frac{2}{3}$

31. $-4y + 2x = -16$

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

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

32. (3, 0); $m = -\frac{2}{3}$

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

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

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

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

33. (5, 9); $m = \frac{3}{5}$

a. $y + 9 = \frac{3}{5}(x + 5)$

b. $y - 9 = \frac{3}{5}(x - 5)$

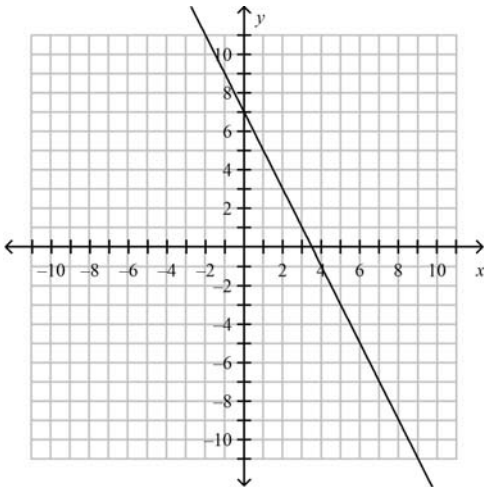
c. $y - 5 = \frac{3}{5}(x - 9)$

d. $y + 5 = \frac{3}{5}(x + 9)$

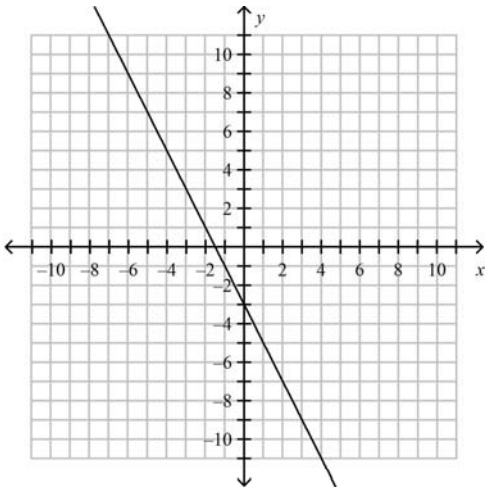
Graph the line with the given slope that passes through the given point.

34. slope = –2; $(2,3)$

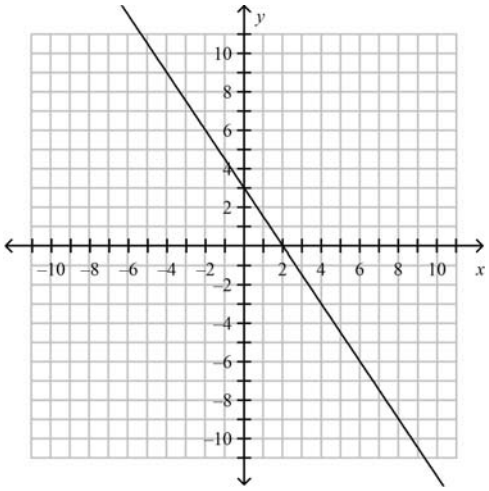
a.



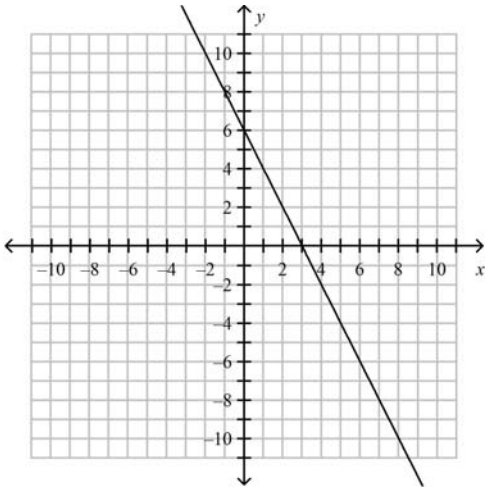
b.



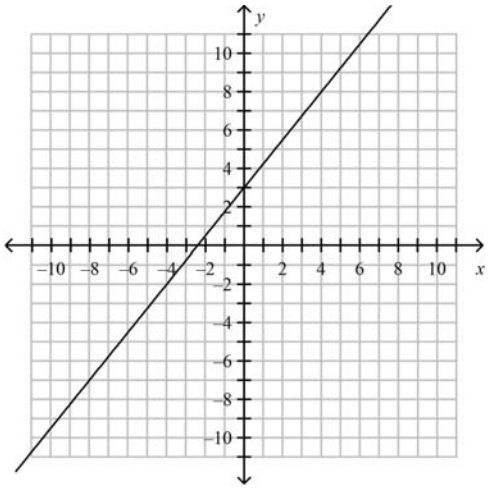
c.



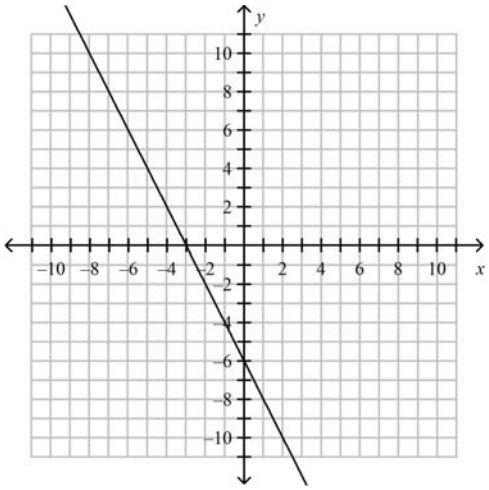
a.



d.



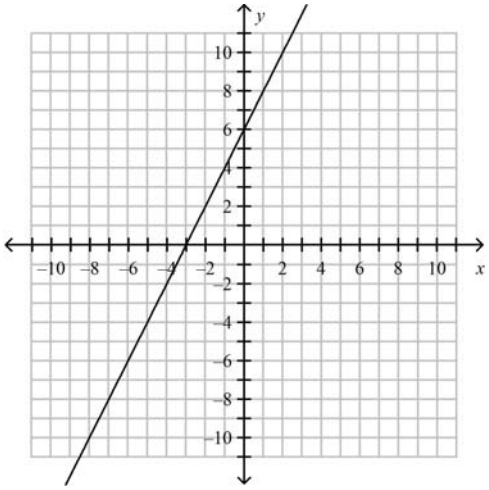
b.



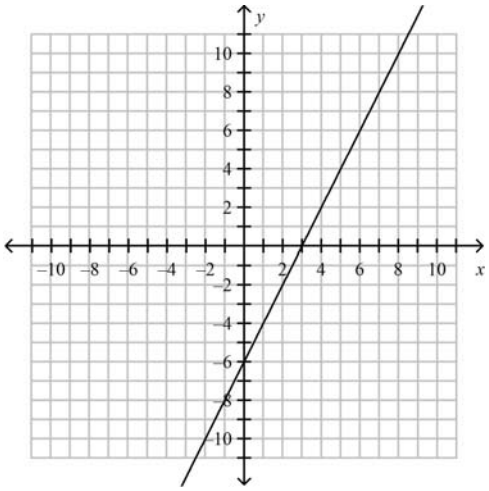
Graph the linear function using slope-intercept form.

35. $y = 2x + 6$

c.

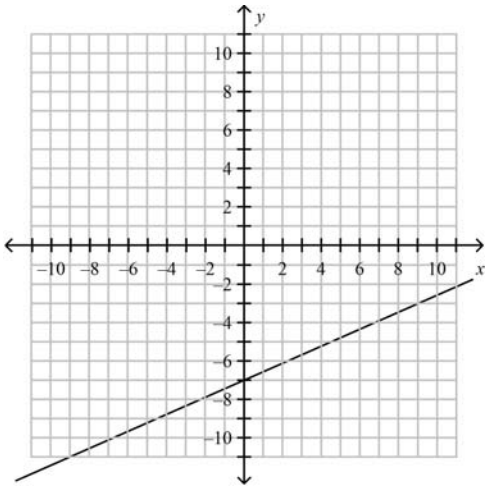


d.

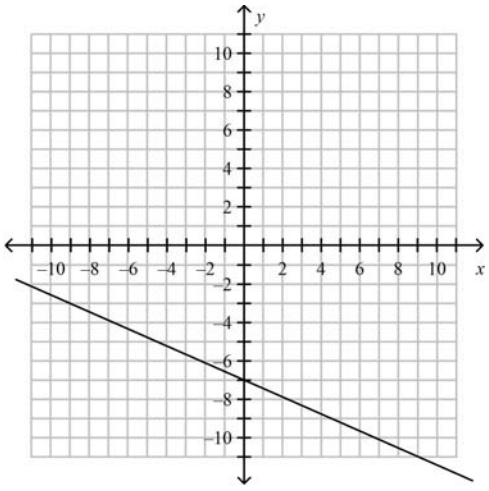


36. $y = -\frac{4}{9}x + 7$

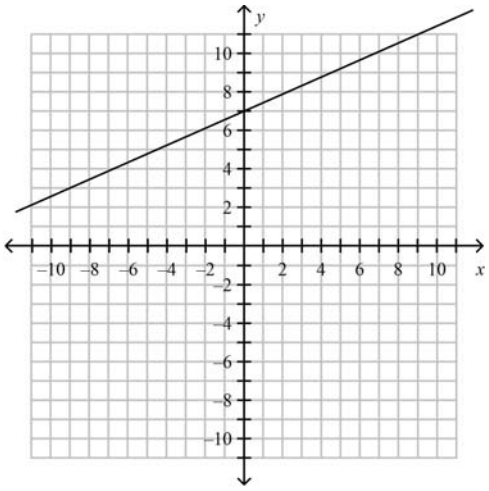
a.



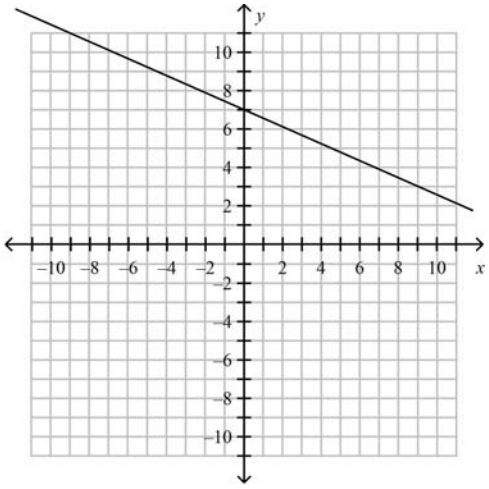
b.



c.



d.



Write the linear equation in slope-intercept form.

37. $-\frac{1}{5}x + y = 12$

a. $y = \frac{1}{5}x - 12$

b. $y = 5x + 12$

c. $x = 5y - \frac{12}{5}$

d. $y = \frac{1}{5}x + 12$

38. $-x + y = 16$
    a. $y = x - 16$
    b. $y = -x + 16$
    c. $y = x + 16$
    d. $x = y + 16$

Find the value of *y* for the given value of *x*.

39. $y = \frac{x}{2} + 7; \quad x = 7$
    a. 7
    b. $10\frac{1}{2}$
    c. $3\frac{1}{2}$
    d. 14

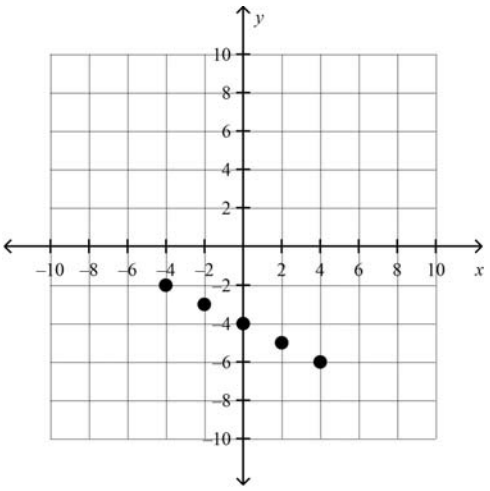
Use the graph or table to write a linear function that relates *y* to *x*.

40.

x	–3	0	3	6
y	1	0	–1	–2

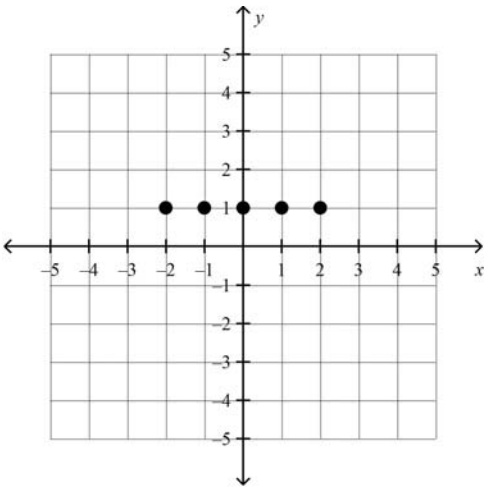
    a. $y = -3x$
    b. $y = \frac{1}{3}x$
    c. $y = 3x$
    d. $y = -\frac{1}{3}x$

41.



    a. $y = \frac{1}{2}x + 4$
    b. $y = -2x - 4$
    c. $y = -\frac{1}{2}x + 4$
    d. $y = -\frac{1}{2}x - 4$

42.



    a. $x = y + 1$
    b. $x = 1$
    c. $y = x + 1$
    d. $y = 1$

43. The profit y from selling x muffins can be represented by a linear function. The profit from selling 5 muffins is \$4. The profit from selling 7 muffins is \$8. What is the slope of the line represented by the data?
    a. $\frac{1}{2}$
    b. 1
    c. $\frac{4}{5}$
    d. 2

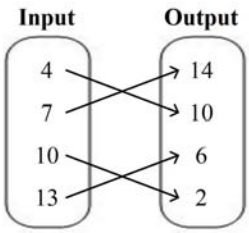
44. Which point appears on the graph of the function below?

    $y = 2x + 3$

    a. (0, 0)
    b. (0, 3)
    c. (3, 0)
    d. (–3, 0)

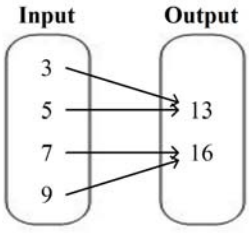
List the ordered pairs shown in the mapping diagram.

45.



    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)

46.



    a. (3, 13), (7, 16)
    b. (3, 13), (5, 13), (7, 16), (9, 16)
    c. (5, 13), (9, 16)
    d. (3, 13), (5, 13), (16, 7), (9, 16)

Find the value of x for the given value of y.

47. $y = \frac{x}{3} - 12; \quad y = 24$
    a. 108
    b. 20
    c. 84
    d. 36

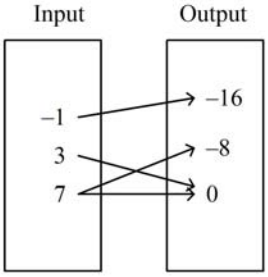
Write a function rule for the statement.

48. The output is two less than the input.
    a. $y = 2 - x$
    b. $y = 2$
    c. $y = 2x$
    d. $y = x - 2$

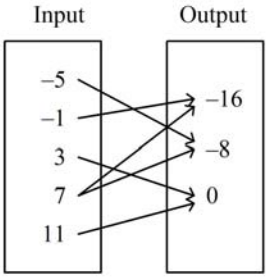
49. The output is one-eighth of the input.
    a. $y = 8x$
    b. $y = x \div \frac{1}{8}$
    c. $y = \frac{1}{8}x$
    d. $x = \frac{1}{8}y$

50. Determine which relation is a function.

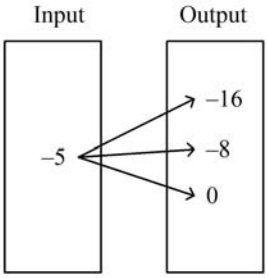
a.



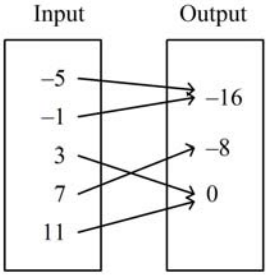
b.



c.



d.



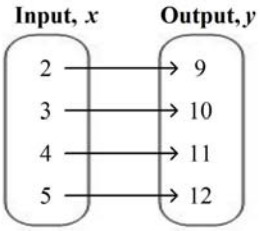
Write an equation that describes the function.

51.

Input, x	Output, y
2	11
3	12
4	13
5	14

a. $y = x + 11$
b. $y = x + 2$
c. $y = x + 9$
d. $y = x - 2$

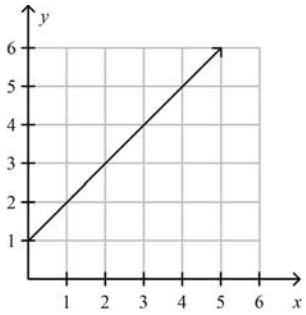
52.



a. $y = \frac{2}{9}x$
b. $y = 2x + 5$
c. $y = x + 7$
d. $y = \frac{9}{2}x$

Which function does the graph represent?

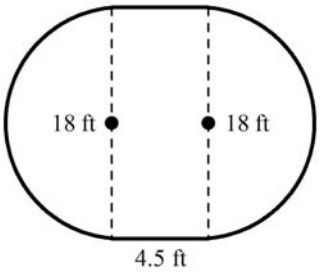
53.



a. $y = 2x - 1$
b. $y = 0.5x$
c. $y = x + 1$
d. $y = x$

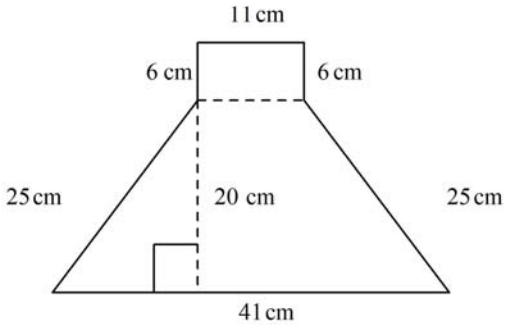
Find the area of the figure.

54.



a. 95.13 ft^2
b. 137.52 ft^2
c. 335.34 ft^2
d. 336.45 ft^2

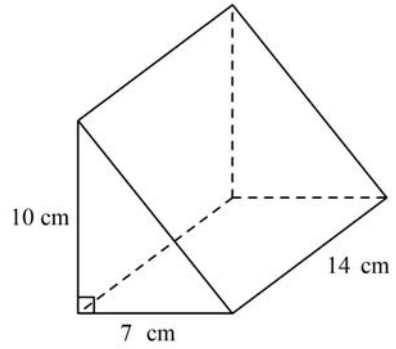
55.



a. 586 cm^2
b. 114 cm^2
c. 587.11 cm^2
d. 886 cm^2

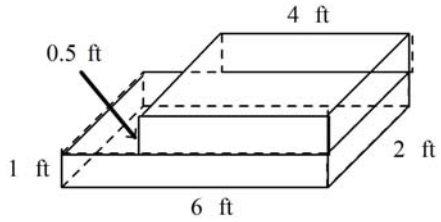
Find the volume of the prism.

56.



a. 980 cm^3
b. 490 cm^3
c. 31 cm^3
d. 132 cm^3

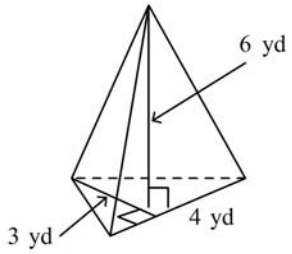
57.



a. 13.5 ft^3
b. 12 ft^3
c. 16 ft^3
d. 18 ft^3

Find the volume.

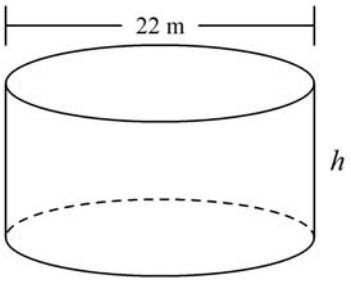
58.



a. 24 yd^3
b. 72 yd^3
c. 12 yd^3
d. 13 yd^3

Find the height of the cylinder. Round your answer to the nearest whole number.

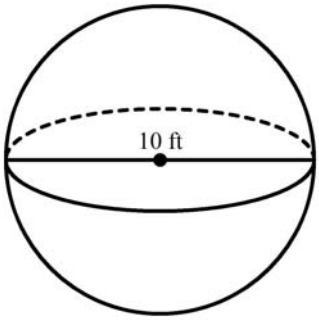
59. Volume = 6,079 m^3



a. 16 m
b. 4 m
c. 8 m
d. 11 m

Find the volume of the sphere. Round your answer to the nearest tenth.

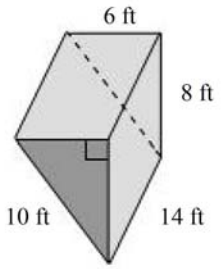
60.



a. 635.1 ft^3
b. 523.6 ft^3
c. 314.2 ft^3
d. 294.5 ft^3

Find the surface area of the prism.

61.

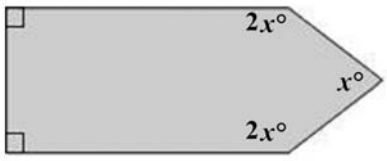


a. 384 ft^2
b. 388 ft^2
c. 720 ft^2
d. 432 ft^2

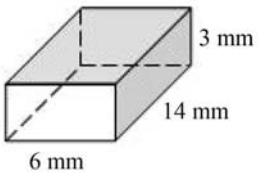
Numeric Response

Find the value of *x*.

1.

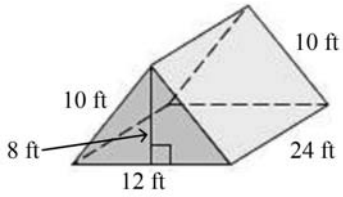


62.



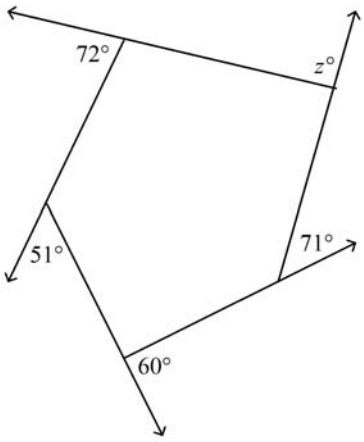
a. 270 mm^2
b. 288 mm^2
c. 144 mm^2
d. 304 mm^2

63.



a. 816 ft^2
b. 864 ft^2
c. 960 ft^2
d. 858 ft^2

2. Find the measure of the exterior angle of the polygon.



Math 8 - Cumulative Review 2
Answer Section

MULTIPLE CHOICE

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

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

NUMERIC RESPONSE

1. 72
2. 106