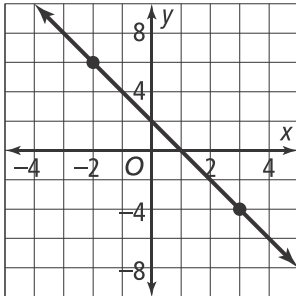


Geometry / Geometry Honors Summer Assignment

1. What is the equation of the line?



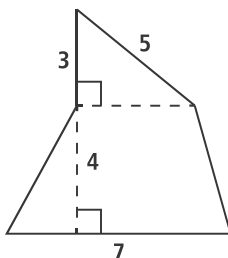
- (A) $y = -2x + 2$
 (B) $y = 2x + 2$
 (C) $y = x + 1$
 (D) $y = -x + 1$

2. Find the value of
- x
- .

$$\frac{5}{6}x - \frac{1}{3} = 4 + \frac{1}{2}x$$

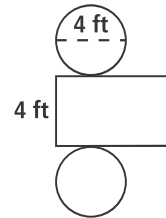
- (A) $x = 11$
 (B) $x = \frac{77}{16}$
 (C) $x = 13$
 (D) $x = \frac{13}{4}$

3. Which is the area of the figure, in square units?



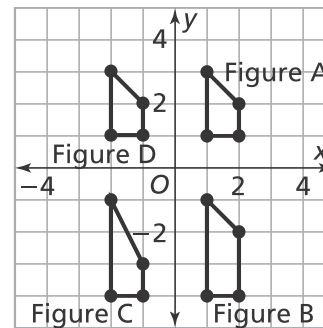
- (A) 28
 (B) 29.5
 (C) 30
 (D) 31.5

4. Sarah needs to paint the outside of ten identical containers that are shaped like a cylinder. One can of paint covers 400 sq ft. Using the net of the cylinder, how many cans of paint will be needed to paint all the containers?



- (A) 1
 (B) 2
 (C) 3
 (D) 4

- 5.
- Part A**
- Which figure is a translation of Figure A?



- (A) Figure B
 (B) Figure C
 (C) Figure D
 (D) None of the above

Part B Describe the translation from Figure A to its congruent figure.

- (A) 3 units left
 (B) 3 units right
 (C) Reflected across the y -axis
 (D) 5 units down

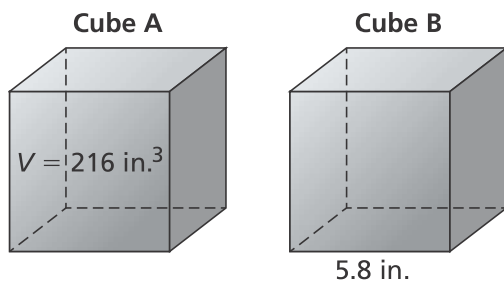
6. The graph of a line passes through the points (3, 18) and (6, 33). What is the equation of the line?

Ⓐ $y = 2x + 12$
 Ⓑ $y = 0.5x + 3$
 Ⓒ $y = -5x + 33$
 Ⓓ $y = 5x + 3$

7. The circumference of a circle is 6π inches. What is the area in terms of π ?

Ⓐ $3\pi \text{ in.}^2$
 Ⓑ $9\pi \text{ in.}^2$
 Ⓒ $12\pi \text{ in.}^2$
 Ⓓ $36\pi \text{ in.}^2$

8. Cube A has a volume of 216 cubic inches. The edge lengths of Cube B measure 5.8 inches. Which cube is larger? Explain.

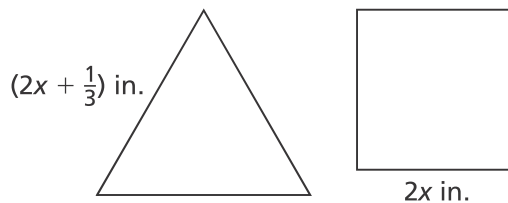


- Ⓐ Cube A, because its volume is greater than the volume of Cube B.
 Ⓑ Cube A, because its surface area is greater than the volume of Cube B.
 Ⓒ Cube B, because its volume is greater than the volume of Cube A.
 Ⓓ Cube B, because its edge length is greater than the edge length of Cube A.

9. Which of the following could be the side lengths of a right triangle?

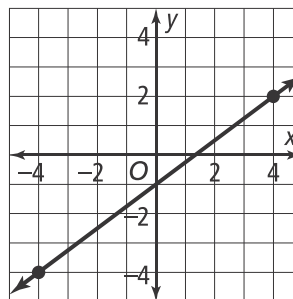
Ⓐ 3, 4, $\sqrt{5}$
 Ⓑ 9, 12, 21
 Ⓒ 24, 32, 40
 Ⓓ $\sqrt{8}$, $\sqrt{14}$, 22

10. A square has side lengths of $2x$ inches. An equilateral triangle has side lengths of $(2x + \frac{1}{3})$ inches. If the square and the triangle have the same perimeter, what is the value of x ?



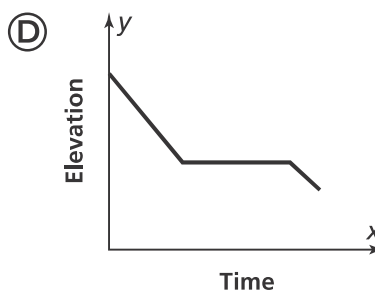
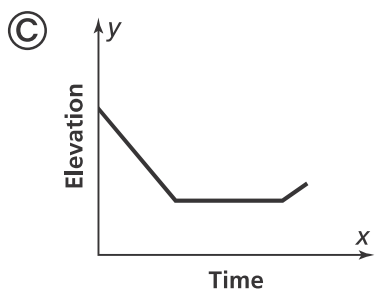
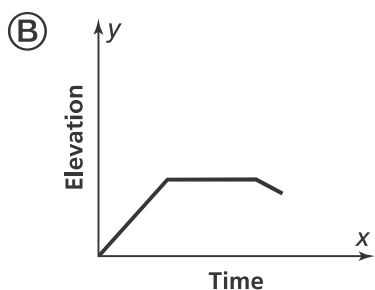
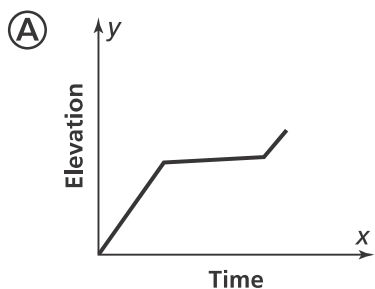
Ⓐ 2
 Ⓑ $\frac{1}{14}$
 Ⓒ $\frac{1}{2}$
 Ⓓ $\frac{3}{2}$

11. What is the equation of the line?

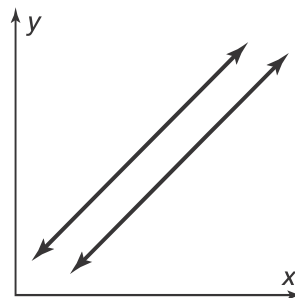


Ⓐ $y = x - 1$
 Ⓑ $y = \frac{4}{3}x - 1$
 Ⓒ $y = \frac{3}{4}x - 1$
 Ⓓ $y = -\frac{4}{3}x + 1$

12. Richard takes a hang gliding lesson. He lifts off at the top of a hill and glides downward for the first 5 minutes. Then he soars at a consistent elevation for 10 minutes. The last 3 minutes he glides upward until he lands on a smaller hill. Use the information about when Richard's elevation is increasing, decreasing, or constant to choose the graph that best approximates Richard's gliding lesson over time.



13. How many solutions does the system of equations have? Explain.



- (A) One; the lines intersect at only one point.
 (B) None; the lines are perpendicular.
 (C) Infinitely many; the lines are parallel.
 (D) None; the lines are parallel.

14. The coordinates of $\triangle PQR$ are $P(1, 1)$, $Q(2, 2)$, and $R(3, 1)$. If $\triangle PQR$ is rotated 90° counterclockwise about the origin, what are the vertices of $\triangle P'Q'R'$?

- (A) $P'(-1, 1)$, $Q'(-2, 2)$, $R'(-1, 3)$
 (B) $P'(-1, -1)$, $Q'(-1, -3)$, $R'(-2, -2)$
 (C) $P'(1, -1)$, $Q'(2, -2)$, $R'(3, -1)$
 (D) $P'(-1, -1)$, $Q'(-2, -2)$, $R'(-3, 1)$

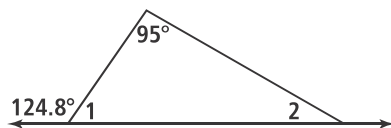
15. If two triangles are similar, which of the following is NOT true about them?

- (A) Corresponding angles are always equal.
 (B) Corresponding sides are always equal.
 (C) The lengths of corresponding sides have the same scale factor.
 (D) A transformation from one triangle to the other must include a dilation.

16. The length of the hypotenuse of a right triangle is 30 inches. The length of one leg is 27 inches. To the nearest tenth, what is the length of the other leg?

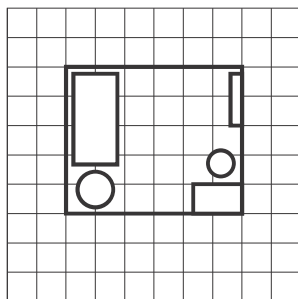
(A) 7.5 in.
 (B) 13.1 in.
 (C) 29.5 in.
 (D) 40.4 in.

17. What is the measure of $\angle 2$?



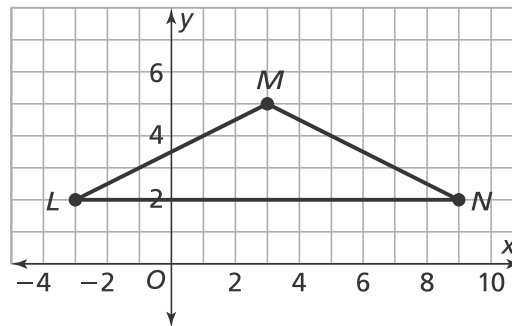
(A) 180°
 (B) 75°
 (C) 65.2°
 (D) 29.8°

18. The drawing shown is a scale figure of Carlos's bedroom. Given that the dimensions of Carlos's bedroom are 12 ft \times 10 ft, what is the scale of Carlos's drawing?



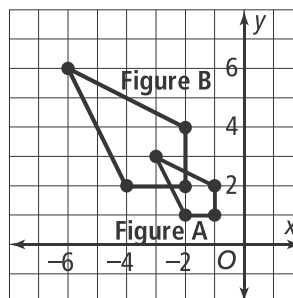
(A) 1 unit = 12 feet
 (B) 1 unit = 2 feet
 (C) 2 units = 1 foot
 (D) 1 unit = 10 feet

19. What is the perimeter of $\triangle LMN$? Round to the nearest tenth.



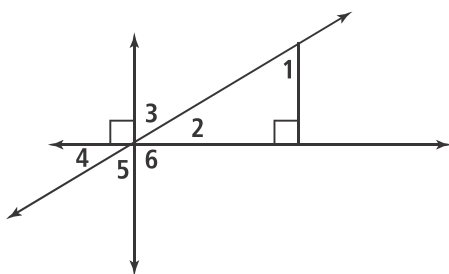
(A) 19.4 units
 (B) 22.4 units
 (C) 25.4 units
 (D) 30.0 units

20. Describe the transformation that shows Figure A is similar to Figure B.



(A) Reflect Figure A across the line $y = 2$.
 (B) Dilate Figure A with center O and scale factor 0.5.
 (C) Dilate Figure A with center O and scale factor 2.
 (D) Translate Figure A left 3 units.

21. Which angle(s) are congruent to $\angle 1$?



- (A) $\angle 2$
- (B) $\angle 2, \angle 4$
- (C) $\angle 3, \angle 5$
- (D) $\angle 6$

22. What is the sum of the interior angle measures of a regular hexagon?

- (A) 180°
- (B) 360°
- (C) 540°
- (D) 720°

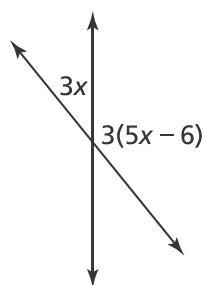
23. What is the solution to the system?

$$y = \frac{3}{2}x + 3$$

$$y = 1.5x + 3$$

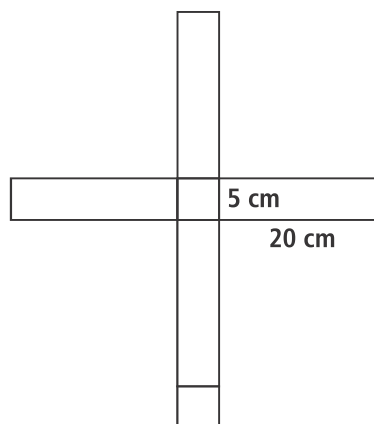
- (A) $(-1.5, 0)$
- (B) $(1, -6)$
- (C) No solution
- (D) Infinitely many solutions

24. Solve for x .



- (A) $x = 10$
- (B) $x = 11$
- (C) $x = 15$
- (D) No solution

25. The net of a rectangular prism with a square base is shown. Use the net to find the surface area of the prism.

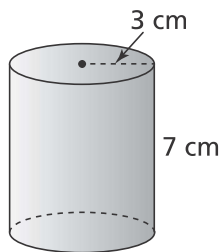


- (A) 100 cm^2
- (B) 450 cm^2
- (C) 500 cm^2
- (D) 2500 cm^2

26. If the angle measures of a triangle can be expressed as $4x + 6$, $7x - 14$, and $48 - x$, what is the value of the smallest angle measure?

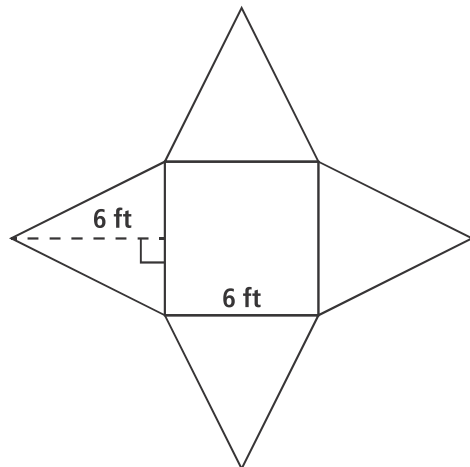
- (A) 14
- (B) 34
- (C) 62
- (D) 84

27. What is the approximate volume of the cylinder? Use $\frac{22}{7}$ for π . Round to the nearest cubic centimeter.



- Ⓐ 66 cm^3
- Ⓑ 132 cm^3
- Ⓒ 198 cm^3
- Ⓓ 264 cm^3

28. The figure below is the net of a square pyramid. What is the surface area of the pyramid?



- Ⓐ 54 ft^2
- Ⓑ 72 ft^2
- Ⓒ 108 ft^2
- Ⓓ 180 ft^2

29. Solve the system of equations.

$$2a + 3b = 23$$

$$3a - 2b = 2$$

- Ⓐ $a = -4, b = -7$
- Ⓑ $a = 10, b = 1$
- Ⓒ $a = 4, b = 5$
- Ⓓ No solution

30. The perimeter of a garden is 88 feet. The length is 12 feet greater than the width.

Part A

Choose the equations you could use to find the dimensions of the garden.

- Ⓐ $L + W = 12$
 $2L + 2W = 88$
- Ⓑ $L = W + 12$
 $2L + 2W = 88$
- Ⓒ $L + W = 44$
 $L + 12 = W$
- Ⓓ $LW = 88$
 $L = W + 12$

Part B

Find the dimensions of the garden and its area.

- Ⓐ Length = 26 ft, width = 18 ft, area = 468 ft^2
- Ⓑ Length = 40 ft, width = 28 ft, area = 1120 ft^2
- Ⓒ Length ≈ 17.2 ft, width ≈ 5.1 ft, area $\approx 87.72 \text{ ft}^2$
- Ⓓ Length = 28 ft, width = 16 ft, area = 448 ft^2