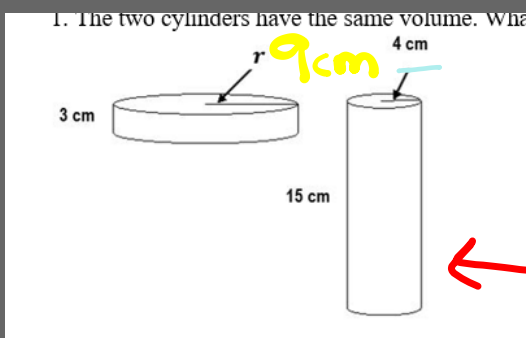


1.) The two cylinders have the same volume. What is the value of  $r$ ? Use 3.14 for pi and round to the nearest tenth.



Cylinder  $V = \pi r^2 h$

Cone  $V = \frac{1}{3} \pi r^2 h$

Sphere  $V = \frac{4}{3} \pi r^3$

Volume

$$V = \pi r^2 h$$

$$V = (3.14)(4)(4)(15)$$

$$V = 753.6 \text{ cm}^3$$

$$753.6 = (3.14)r^2(3)$$

$$\frac{753.6}{9.4} = \frac{9.4(r^2)}{9.4}$$

$$\sqrt{80.1} = \sqrt{r^2}$$

$$8.9 = r$$

$$\boxed{r = 9}$$

2.) What is the volume of the cylindrical container with its cone-shaped lid? Use 3.14 for pi and round to the nearest tenth.

Cylinder	$V = \pi r^2 h$
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Cone	$V = \frac{1}{3} \pi r^2 h$
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Sphere	$V = \frac{4}{3} \pi r^3$
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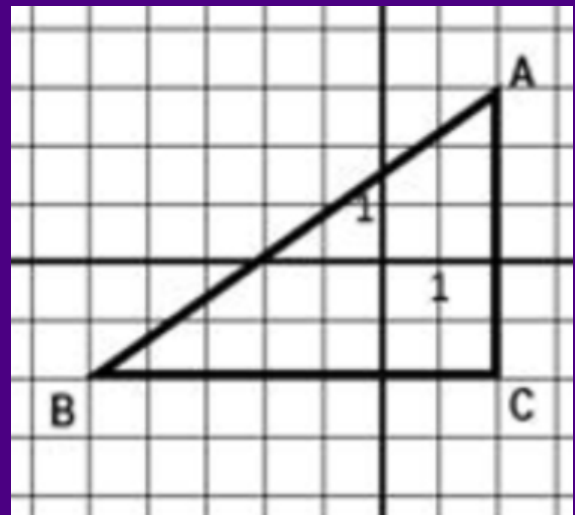
3.) An ice cream cone has a volume of 112 cubic centimeters and a height of 12 centimeters. What is the DIAMETER of the full cone to the nearest tenth?

Cylinder	$V = \pi r^2 h$
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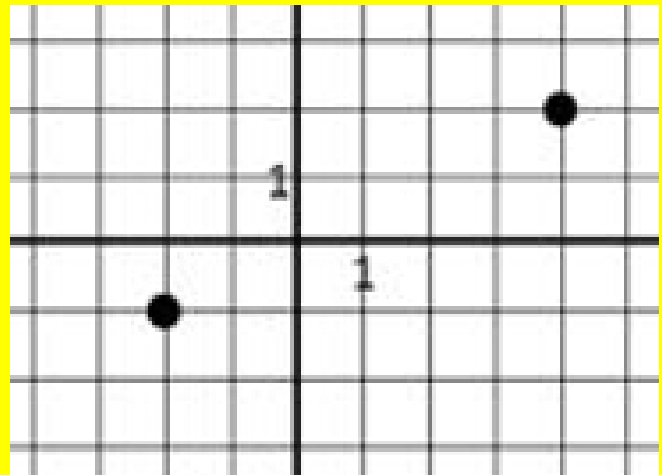
Cone	$V = \frac{1}{3} \pi r^2 h$
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Sphere	$V = \frac{4}{3} \pi r^3$
--------	---------------------------

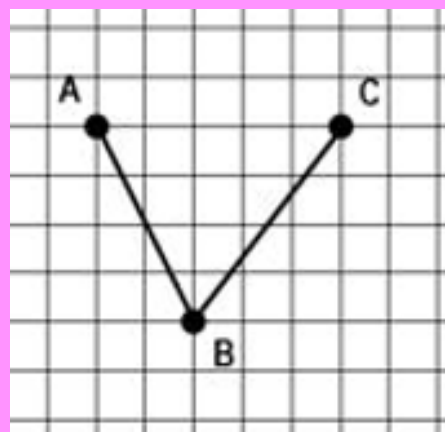
4.) What is the approximate length of side AB? Round to the nearest tenth.



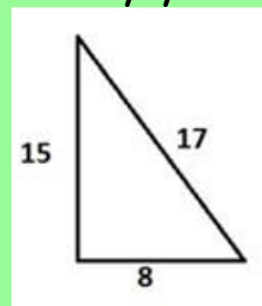
5.) What is the distance between the pair of points shown on the coordinate plane? Round to the nearest tenth.



6.) A car travels from point A to point B and then to point C. If each unit is 2 miles, approximately how far does the car travel? Round to the nearest whole number.

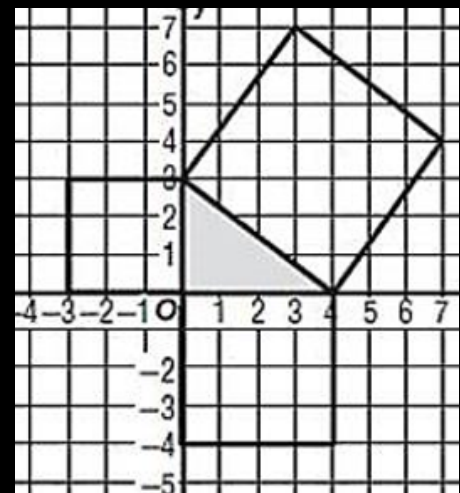


7.) Is the triangle shown a right triangle? Justify your answer.



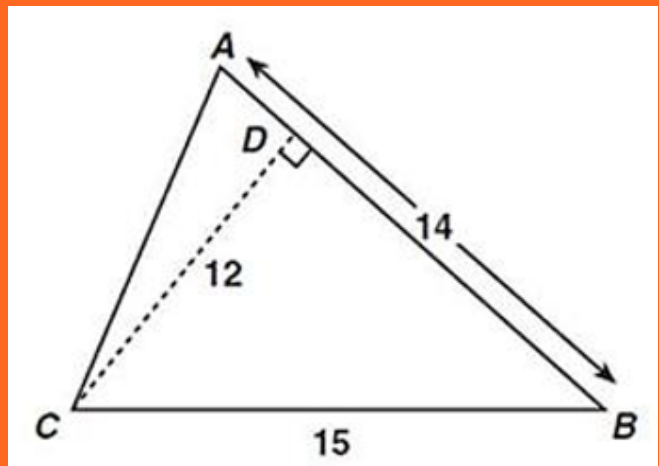
- a.) Yes, it is a right triangle because  $8^2 + 15^2 = 17^2$ .
- b.) Yes, it is a right triangle because  $17^2 + 8^2 = 15^2$ .
- c.) No, it's not a right triangle because  $17 < 15 + 8$ .
- d.) No, it's not a right triangle because  $8^2 + 15^2 \neq 17^2$ .

8.) What is the area of the square on the longest side of the right triangle?



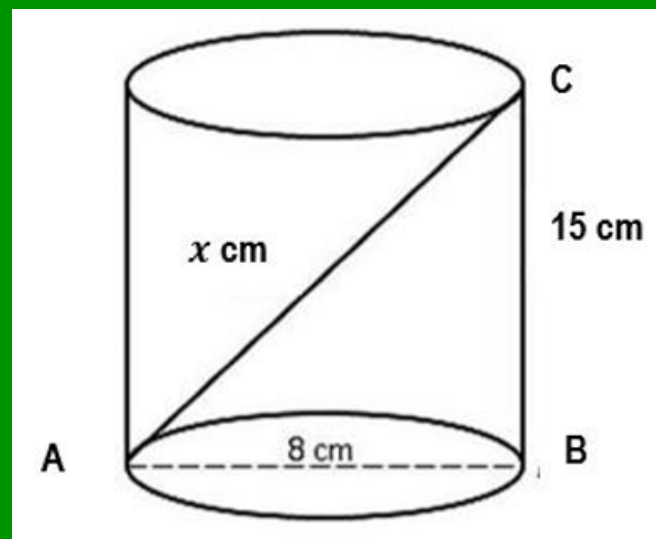


9.) Lines  $AB$  and  $CD$  are perpendicular. What is the perimeter of triangle  $ABC$ ?



10.) The side of a square measures 8 mm.  
What is the length of the diagonal of the  
square rounded to the nearest tenth?

11.) What is the length of line segment AC?



## 12.) CONSTRUCTED RESPONSE

### Part A

A triangle has sides with lengths of 7, 11 and 14 inches. Determine whether this triangle is a right triangle or not. Show all work necessary to justify your answer AND explain in a sentence(s).

### Part B

A right triangle has a hypotenuse with a length of 15. The lengths of the legs are whole numbers. What are the lengths of the legs? Show work to justify your answer AND explain in sentence(s).