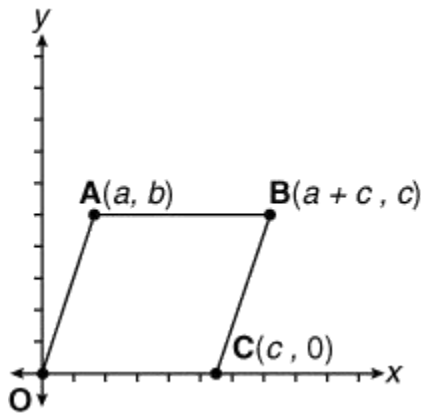


GEOMETRY DIFFICULT CST QUESTIONS (0%-24%)

1. Look at the figure below.



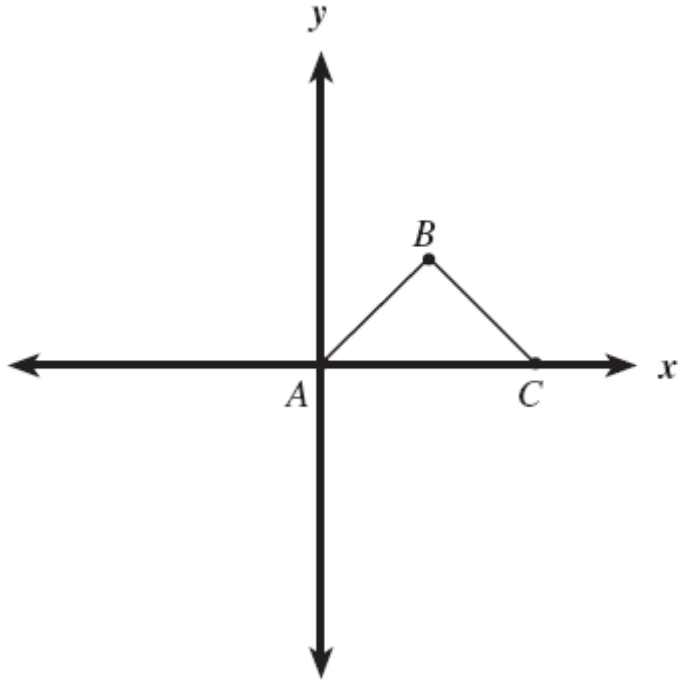
*OABC* is a rhombus, which of the following statements are true?

I.  $a^2 + b^2 = c^2$

II.  $(\text{Slope } \overline{AC}) \times (\text{Slope } \overline{OB}) = -1$

- A I and II
- B neither I nor II
- C I only
- D II only

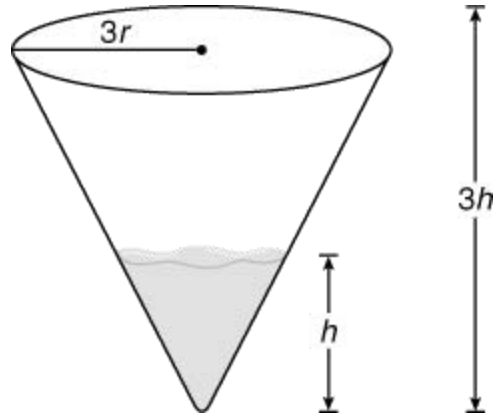
2. The diagram shows  $\triangle ABC$



Which statement would prove that  $\triangle ABC$  is a right triangle?

- A  $(\text{slope } \overline{AB})(\text{slope } \overline{BC}) = 1$
- B  $(\text{slope } \overline{AB})(\text{slope } \overline{BC}) = -1$
- C distance from  $A$  to  $B =$  distance from  $B$  to  $C$
- D distance from  $A$  to  $B = -$  (distance from  $B$  to  $C$ )

3. A cone-shaped cup is filled with water as shown below.



Which of the following statements is true?

$$\left( \text{Volume} = \frac{\pi r^2 h}{3} \right)$$

- A The volume of the water is one-third the volume of the cup.
- B The volume of the cup is 9 times the volume of the water.
- C The volume of the cup is 27 times the volume of the water.
- D The volume of the water is one-sixth the volume of the cup.

4. A square is circumscribed about a circle. What is the ratio of the area of the circle to the area of the square?

- A  $\frac{1}{4}$
- B  $\frac{1}{2}$
- C  $\frac{2}{\pi}$
- D  $\frac{\pi}{4}$

## ANSWER KEY DIFFICULT GEOMETRY CST QUESTIONS

1. A
2. B
3. C
4. D