

7. True (A) or False (B)

$$\tan^{-1}\left(\frac{\text{Opp.}}{\text{adj.}}\right) = \theta$$

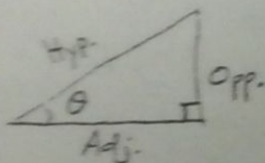
Side Opp. (opposite the angle θ)

Side adj. (adjacent the angle θ)

8.

True (A) or False (B)

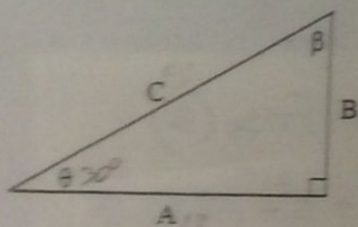
$$\cos \theta = \frac{\text{Opp.}}{\text{Hyp.}}$$



9. If Q and R were perpendicular, the length of the sum of vectors Q and R would be:

- A. equal to the sum of the magnitudes of Q and R .
- B. greater than the sum of the magnitudes of Q and R .
- C. equal to the sum of the squares of the magnitudes of Q and R .
- D. equal to the square root of the sum of the squares of the magnitudes of Q and R .

Questions 10-16 refer to the triangle shown below:



Triangle 1

10. If, in Triangle 1, side A has a length of 16 cm and side C has a length of 20 cm, what is the length of side B?

- A. 9 cm
- B. 10 cm
- C. 12 cm
- D. 16 cm

11. If, in Triangle 1, side B has a length of 3 m, and angle θ is 30° , what is the length of side C?

- A. 4 m
- B. 5 m
- C. 6 m
- D. 9 m

12. If, in Triangle 1, side A is 17 cm and side B is 10 cm, what is the approximate measure of the angle θ ?

- A. 30°
- B. 45°
- C. 60°
- D. 90°

13. Which of the following represents the length of side A in Triangle 1?

- A. $C \sin \theta$
- B. $C \cos \theta$
- C. $B \sin \theta$
- D. $B \cos \theta$

14. The length of side C is:

- A. $\sqrt{B^2 + C^2}$
- B. $\sqrt{A^2 + B^2}$
- C. $A^2 + C^2$
- D. $A^2 + B^2$

15. If angle θ is 30° , and side C is 25 meters, then:

- A. side A must be 5 meters.
- B. side A must be 12.5 meters.
- C. side B must be 5 meters.
- D. side B must be 12.5 meters.

16. If side C is twice as long as side B, angle θ must be:

- A. 30°
- B. 45°
- C. 60°
- D. 90°