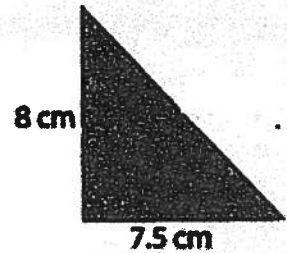


1. Dave needs to know what the value of the hypotenuse is in this triangle. Use Pythagorean theorem to find your answer.



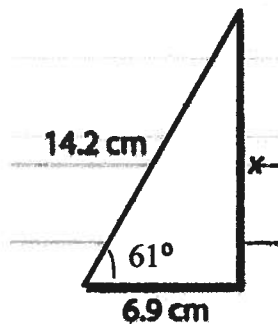
2. Which equation could be used to determine the value of x ?

A. $\cos 61^\circ = \frac{x}{6.9}$

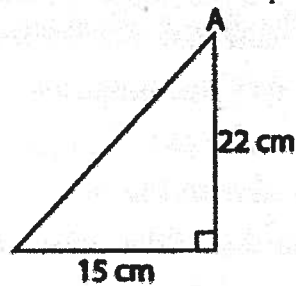
C. $\sin 61^\circ = \frac{6.9}{14.2}$

B. $\cos 61^\circ = \frac{x}{14.2}$

D. $\tan 61^\circ = \frac{x}{6.9}$



3. What is the measure of $\angle A$?



4. Cindi was asked to solve the following problem. A pilot takes off and climbs at a steady rate at an angle of 12.2° . Determine the horizontal distance the plane has gone when it has travelled 5.4 km. Her solution is shown below.

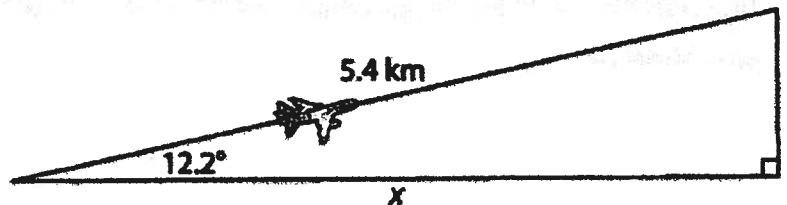
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Step 1 $\cos A = \frac{\text{adjacent}}{\text{hypotenuse}}$

Step 2 $\cos 12.2^\circ = \frac{x}{5.4}$

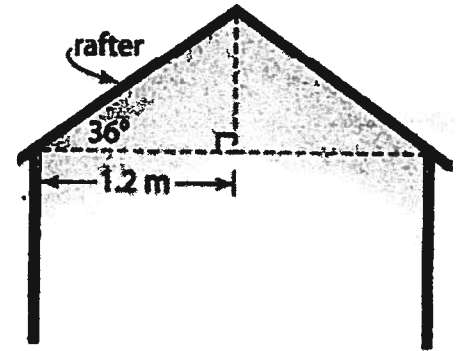
Step 3 $\frac{\cos 12.2^\circ}{5.4} = x$

Step 4 $0.999\dots = x$

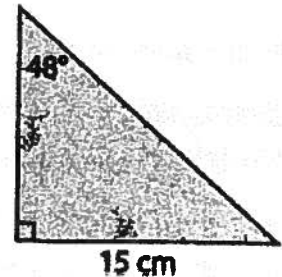


At which step did Cindi make her first error?

5. Paul is designing a storage shed to build beside the house. He wants an overhang of 30cm. on each side of his roof. How long should each rafter be?



6. Determine the unknown side lengths and angle measurements in the triangle. Give each side length to the nearest tenth of a unit and the angle to the nearest degree.



7. Gerianne leans a ladder that is 30 ft. long against a two-storey house. The feet of the ladder are 7 ft. from the base of the house.

a) Sketch the diagram of the situation.

b) How high up the side of the house does the ladder reach? (answer to the nearest whole foot).

c) What angle does the ladder make with the ground? (answer to the nearest whole degree).

8. a) What two different methods could you use to determine the hypotenuse in the triangle shown?

b) Use one method to determine the length of the hypotenuse. Use a different method to check your answer. Show all work.

