

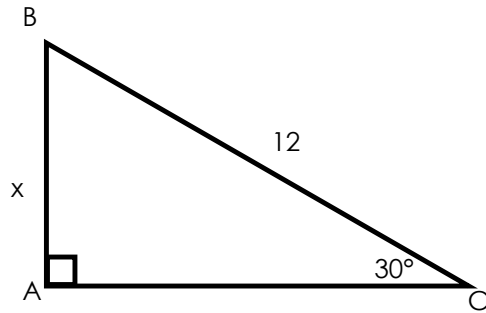
8.2 Solving For Sides With Trigonometric Ratios

Students will be able find the ratio's of trigonometric ratio's

Finding Side Lengths With Trigonometry

If you know _____ and _____ of a right triangle, you can find any missing side of the triangle using trigonometric ratios

Find the value of x



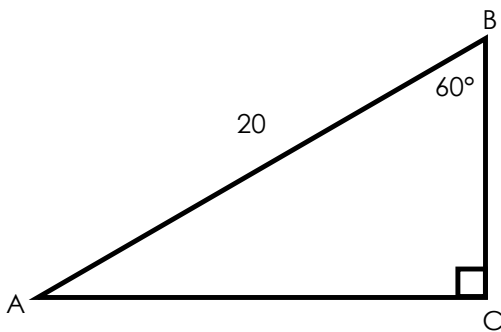
Steps To Find Missing Side

- Step 1: Identify Trig Function
- Step 2: Step up ratio
- Step 3: Solve

Trig Function Angle Measure Side Ratio

_____ () = _____

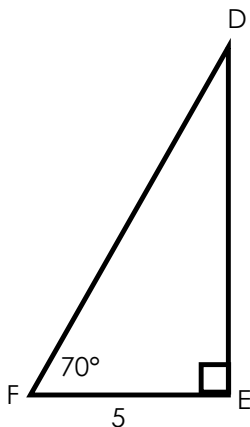
Find the length of \overline{BC}



Trig Function Angle Measure Side Ratio

_____ () = _____

Find the length of \overline{DE} . Round your answer to the nearest hundredth.

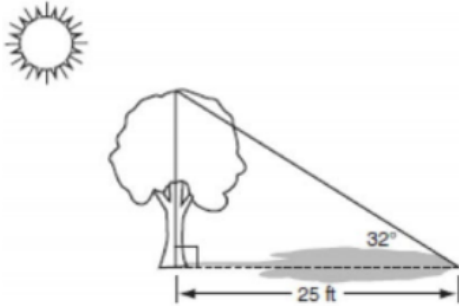


Trig Function Angle Measure Side Ratio

_____ () = _____

Trigonometry Word Problems - Solving for a Side

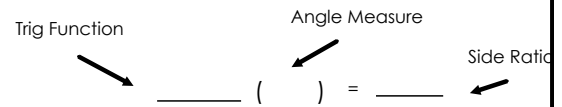
A tree casts a 25-foot shadow on a sunny day, as shown in the diagram below.



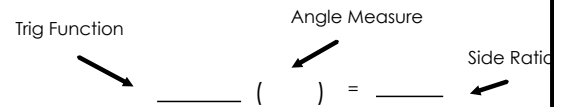
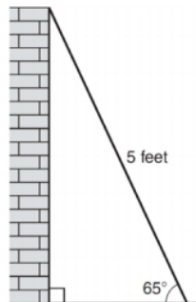
If the angle of elevation from the tip of the shadow to the top of the tree is 32° , what is the height of the tree to the *nearest tenth of a foot*?

Steps To Find Missing Side

- Step 1: Identify Trig Function
- Step 2: Step up ratio
- Step 3: Solve



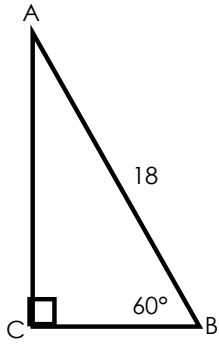
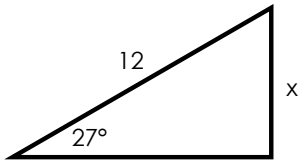
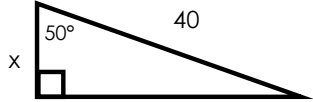
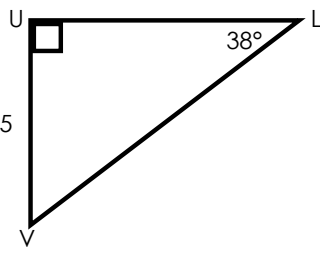
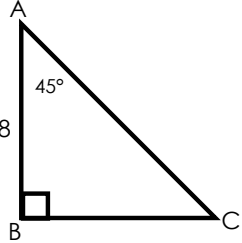
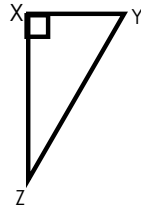
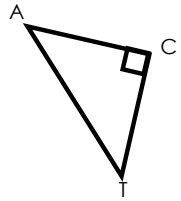
As shown in the diagram below, a ladder 5 feet long leans against a wall and makes an angle of 65° with the ground. Find, to the *nearest tenth of a foot*, the distance from the wall to the base of the ladder.



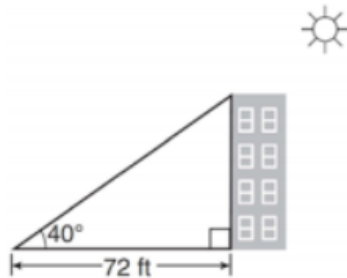
A ladder leaning against a wall, reaches to a height of 12 metres when it is at an angle of 67.5 degrees to the ground. How far is the foot of the ladder away from the wall?

Independent Practice

Round all answers to the nearest hundredth!

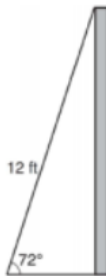
 <p>Find the length of \overline{CB}</p> <p>Trig Function Angle Measure Side Ratio</p> <p>_____ () = _____</p> <p>CB = _____</p>	
<p>Find the value of x</p>  <p>x = _____</p>	<p>Find the value of x</p>  <p>x = _____</p>
<p>Find the length of \overline{VL}</p>  <p>VL = _____</p>	<p>Find the length of \overline{BC}</p>  <p>BC = _____</p>
<p>If $\overline{XY} = 5$ and the $m\angle Z = 23^\circ$, find the length of \overline{ZY}.</p>  <p>$m\angle X =$ _____</p>	<p>If $AC = 7$ and the $m\angle A = 42^\circ$, find the length of \overline{CT}.</p>  <p>CT = _____</p>

As shown in the diagram below, a building casts a 72-foot shadow on the ground when the angle of elevation of the Sun is 40° .



How tall is the building, to the *nearest foot*?

As shown in the diagram below, a ladder 12 feet long leans against a wall and makes an angle of 72° with the ground.



Find, to the *nearest tenth of a foot*, the distance from the wall to the base of the ladder.

A 10-foot ladder is to be placed against the side of a building. The base of the ladder must be placed at an angle of 72° with the level ground for a secure footing. Find, to the *nearest inch*, how far the base of the ladder should be from the side of the building *and* how far up the side of the building the ladder will reach.