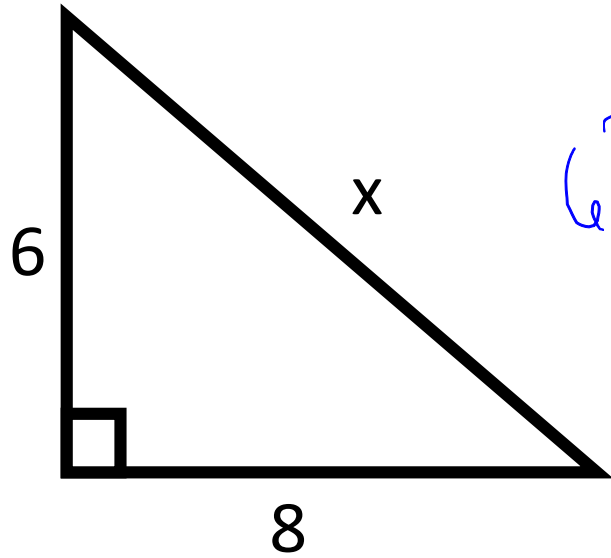
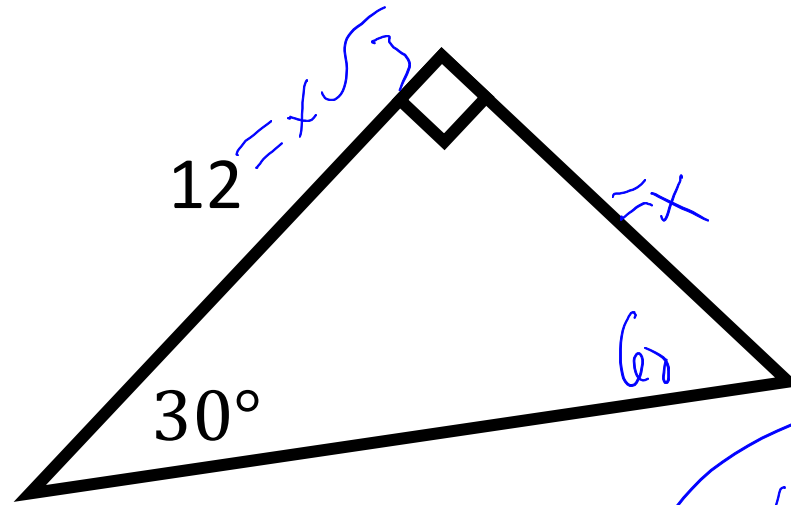


Warm Up

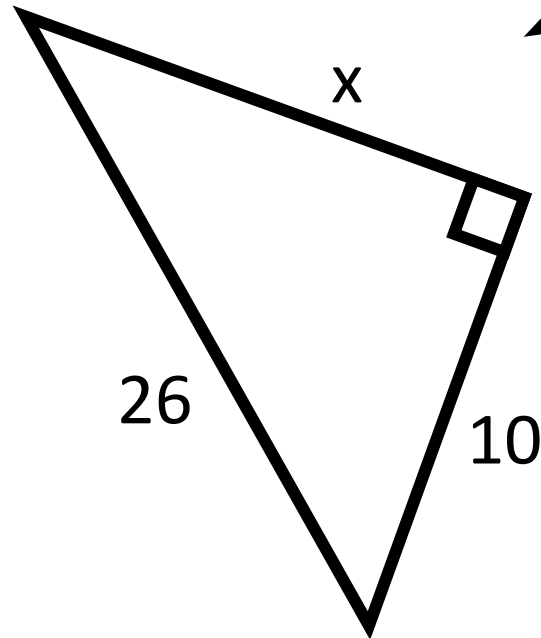
Solve for each missing side length.



$$6^2 + 8^2 = x^2$$
$$x = 10$$



$$x = 6.9$$



$$10^2 + x^2 = 26^2$$
$$100 + x^2 = 676$$
$$x^2 = 576$$
$$x = 24$$

Homework

1. $a = 4, b = 2\sqrt{2}$

2. $x = y = 2\sqrt{2}$

3. $y = \frac{3\sqrt{2}}{2}, x = 3$

4. $y = 3\sqrt{2}, x = 6$

5. $x = y = 3\sqrt{2}$

6. $x = y = 2\sqrt{3}$

7. $y = 8, x = 8\sqrt{3}$

8. $v = 2\sqrt{3}, u = 4$

Homework

1. $a = 4, b = 2.83$

2. $x = y = 2.83$

3. $y = 2.12, x = 3$

4. $y = 4.24, x = 6$

5. $x = y = 4.24$

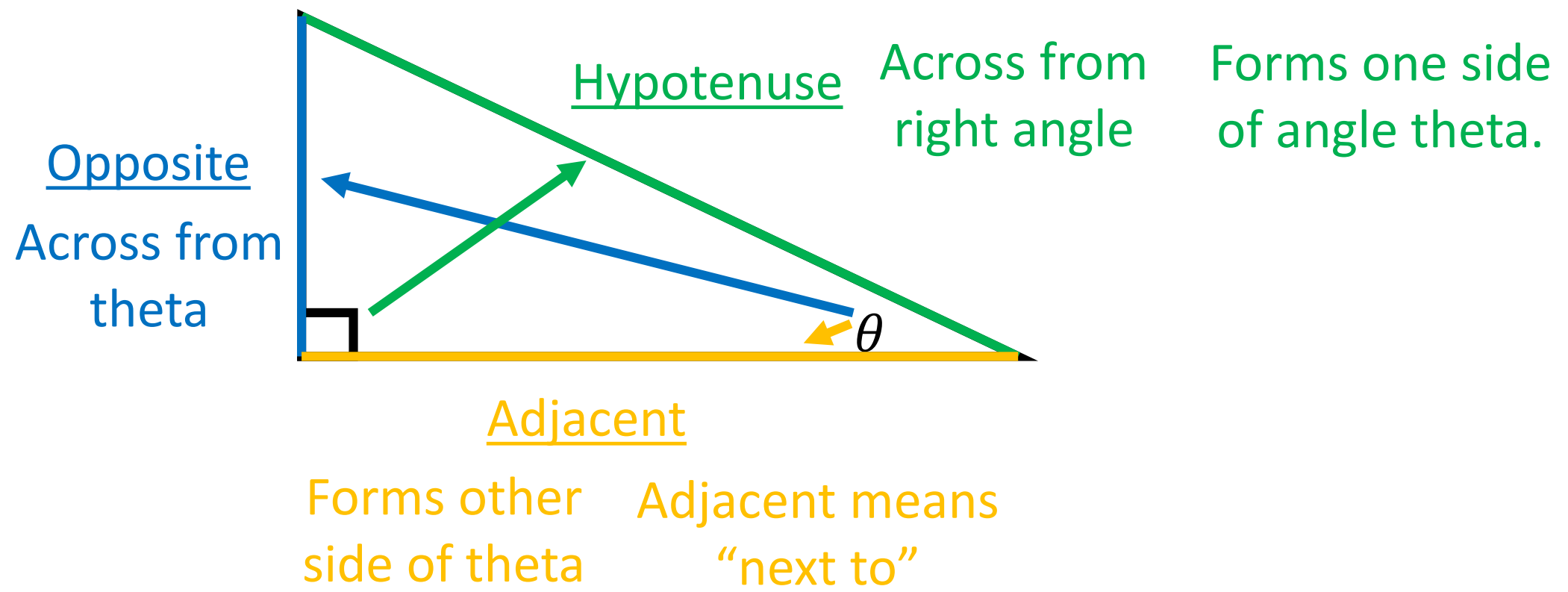
6. $x = y = 3.46$

7. $y = 8, x = 13.86$

8. $v = 3.46, u = 4$

Notes

Theta (θ) represents an unknown angle.



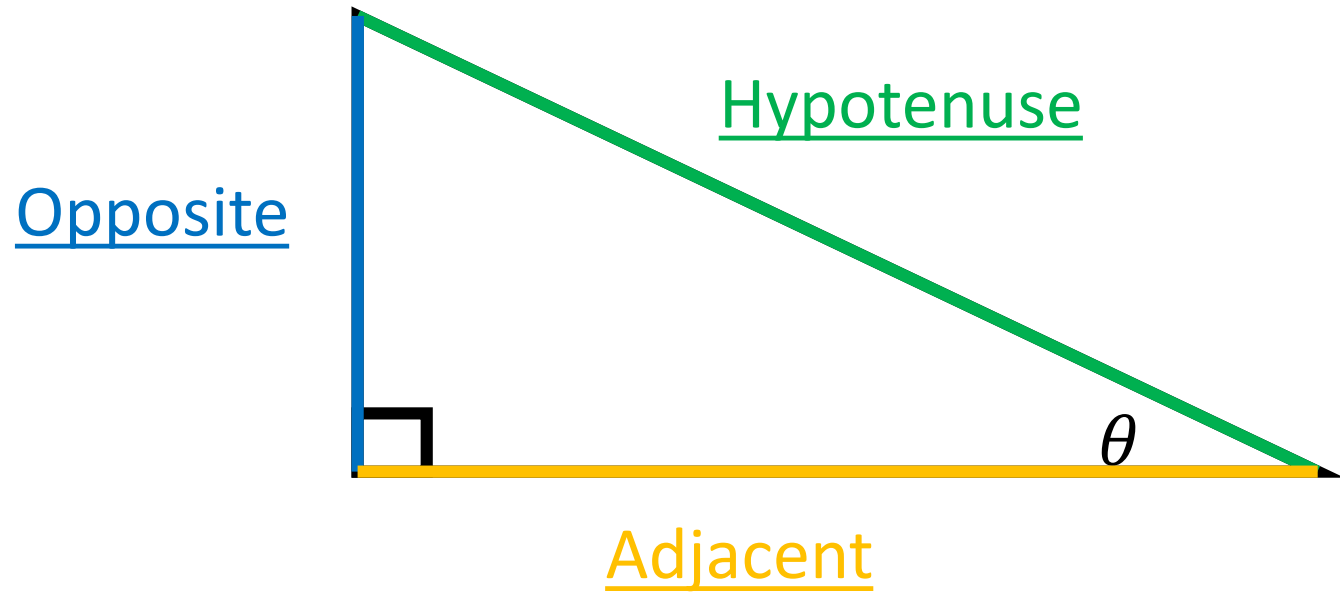
Notes

Right triangle trig:

Sine: $\sin(\theta) = \frac{\text{opposite}}{\text{hypotenuse}}$

Cosine: $\cos(\theta) = \frac{\text{adjacent}}{\text{hypotenuse}}$

Tangent: $\tan(\theta) = \frac{\text{opposite}}{\text{adjacent}}$



We can easily remember these with the acronym SOH CAH TOA.

Activity

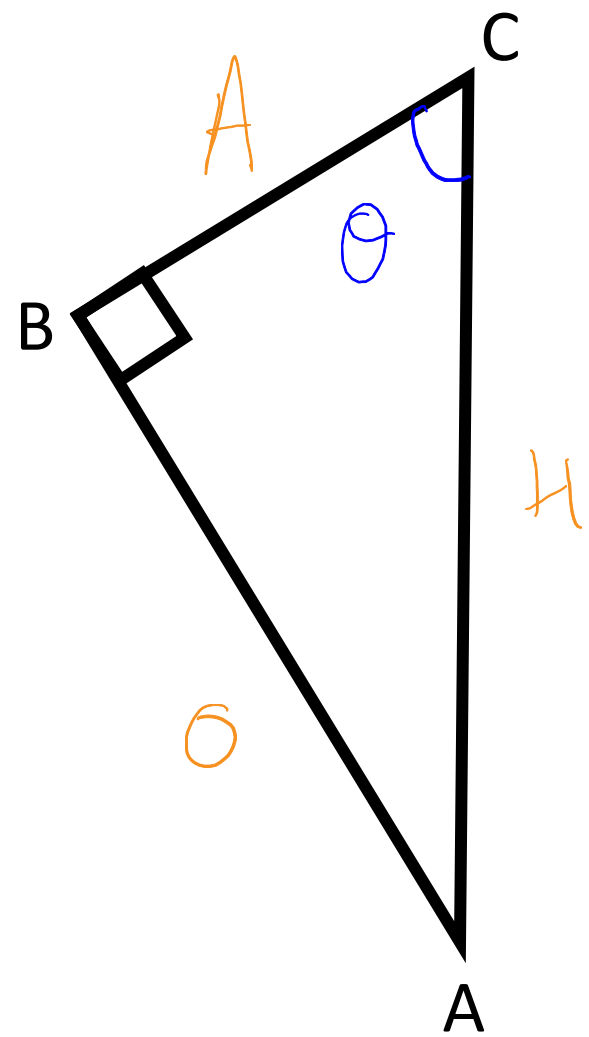
$$S = \frac{O}{H}$$

$$C = \frac{A}{H}$$

$$T = \frac{O}{A}$$

Notes

In this triangle, which side is opposite, adjacent, and hypotenuse based on angle C?



Opposite = \overline{AB}

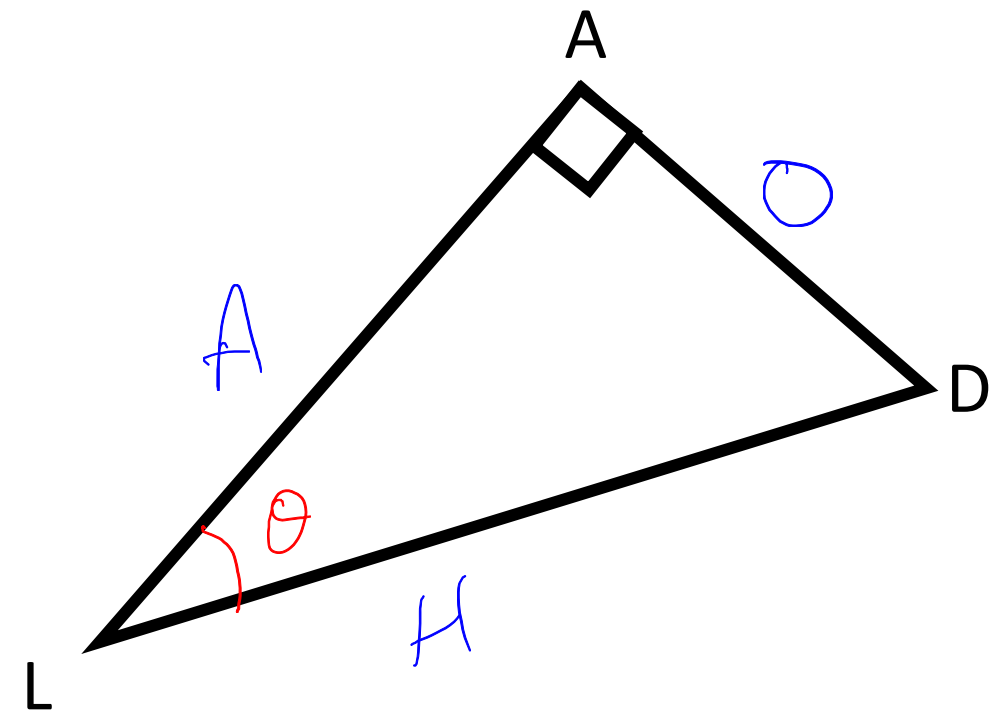
Adjacent = \overline{BC}

Hypotenuse = \overline{AC}

Notes

In this triangle, which side is opposite, adjacent, and hypotenuse based on angle L?

Opposite = \overline{AD}
Adjacent = \overline{AL}
Hypotenuse = \overline{LD}



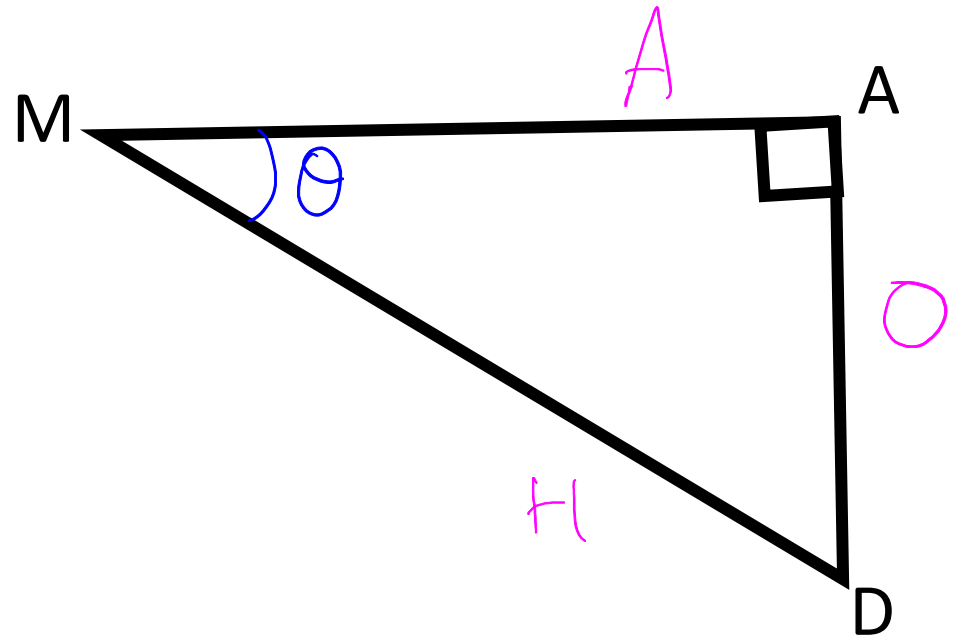
Notes – You try!

In this triangle, which side is opposite, adjacent, and hypotenuse based on angle M?

Opposite = \overline{AD}

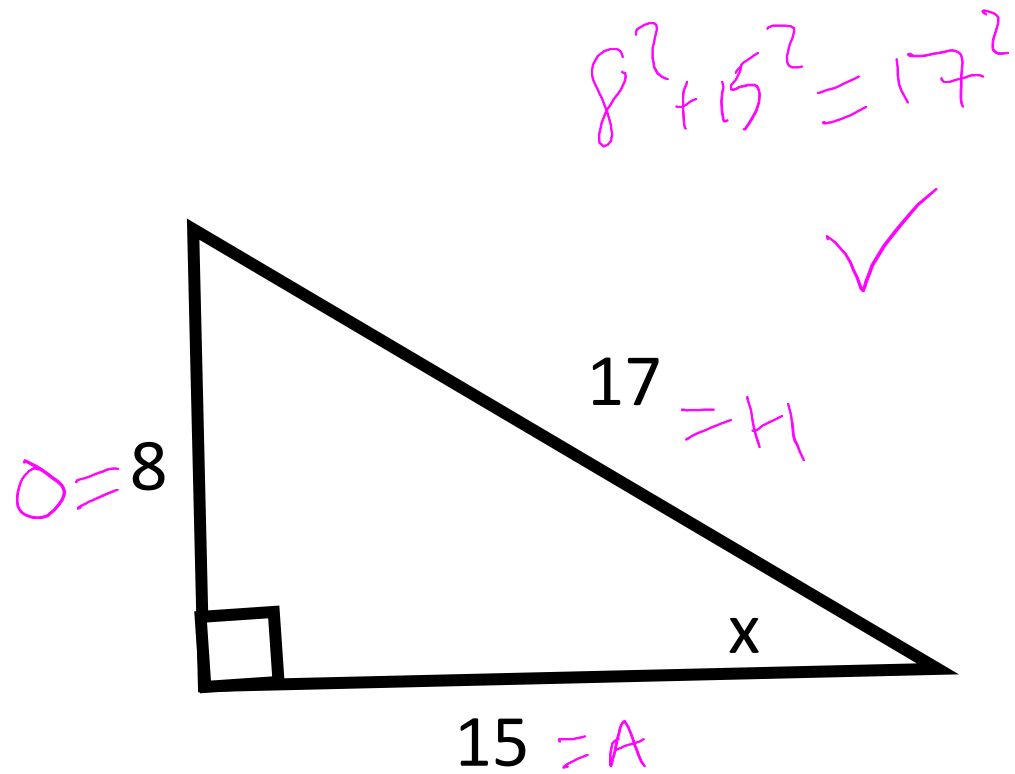
Adjacent = \overline{AM}

Hypotenuse = \overline{MD}



Notes

Is this a right triangle? Trig functions only work on right triangles!!



Find
 $\tan(x) = \frac{8}{15}$

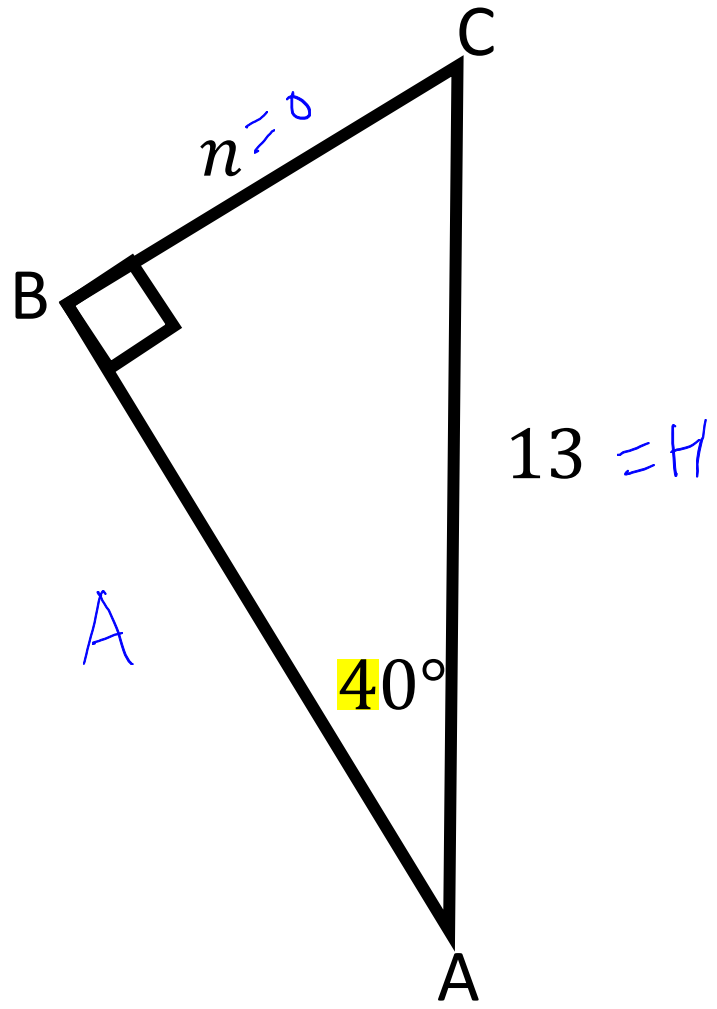
$$\sin(x) = \frac{8}{17}$$

$$\cos(x) = \frac{15}{17}$$

Notes

Label each leg opposite, adjacent or hypotenuse.

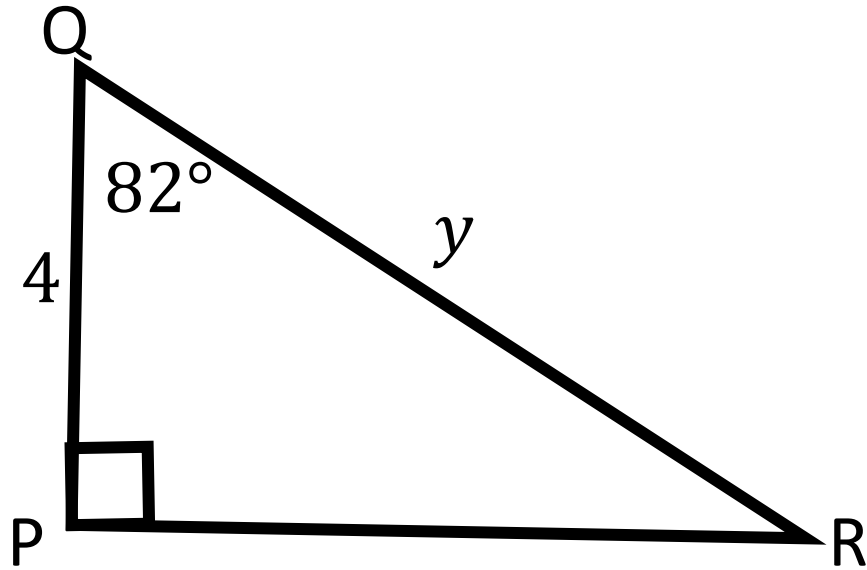
Write the formula for n and solve to the nearest tenth.



Notes

Label each leg opposite, adjacent or hypotenuse.

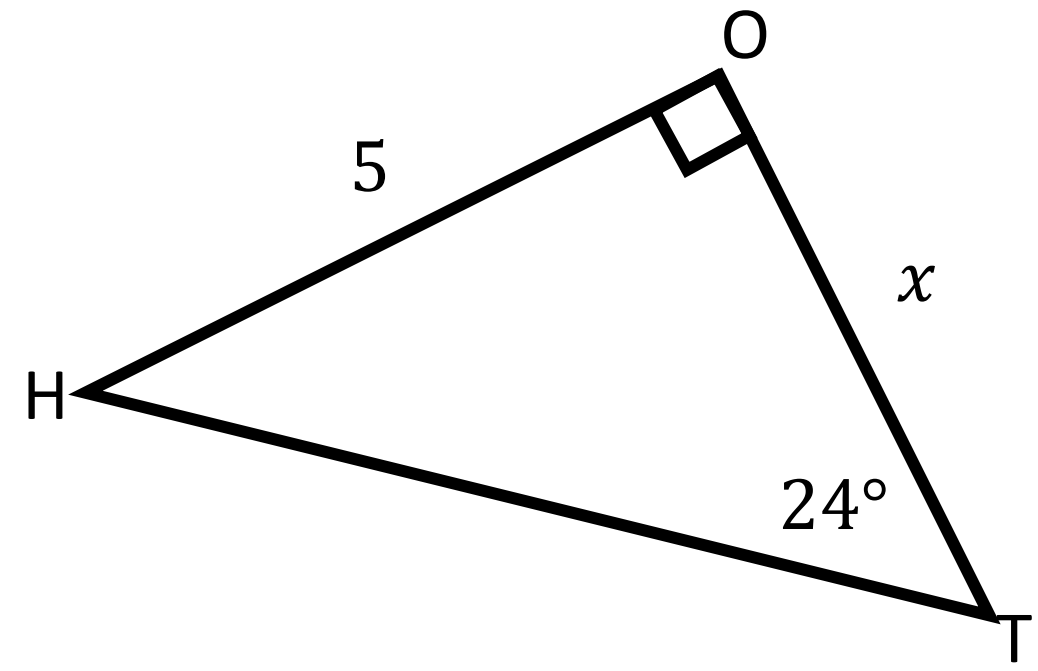
Write the formula for y and solve to the nearest tenth.



Notes

Label each leg opposite, adjacent or hypotenuse.

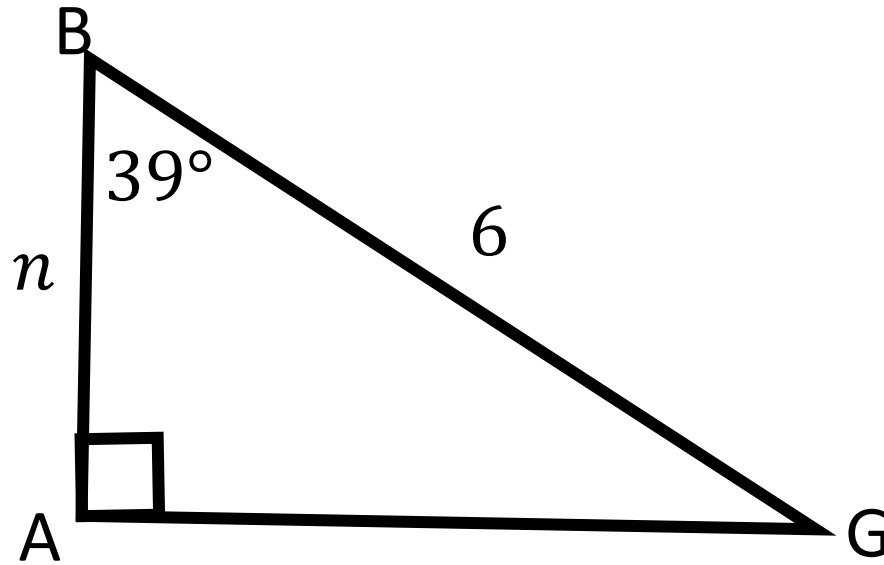
Write the formula for x and solve to the nearest tenth.



Notes – You try!

Label each leg opposite, adjacent or hypotenuse.

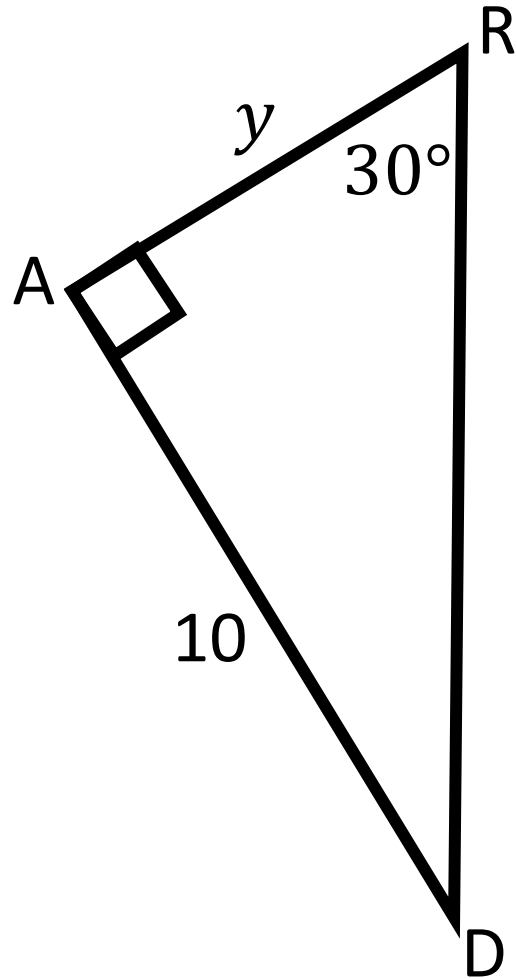
Write the formula for n and solve to the nearest tenth.



Notes – You try!

Label each leg opposite, adjacent or hypotenuse.

Write the formula for y and solve to the nearest tenth.



Notes – You try!

Label each leg opposite, adjacent or hypotenuse.

Write the formula for x and solve to the nearest tenth.

