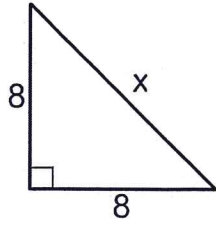


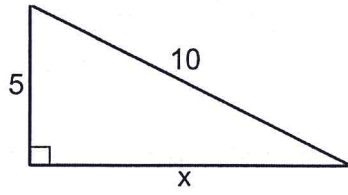
Bellwork Alg 2B Monday, January 29, 2018

Find the exact value of the missing sides using Pythagorean Theorem. Simplify your answers.

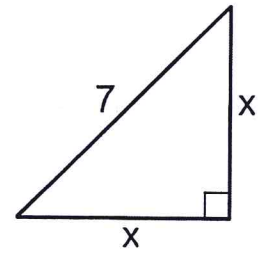
1.



2.



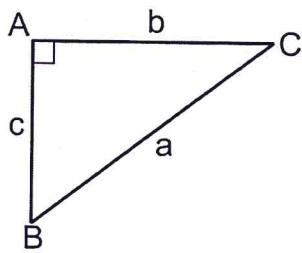
3.



4. Write each trigonometric ratio as a fraction. What do you notice? Can you explain why?

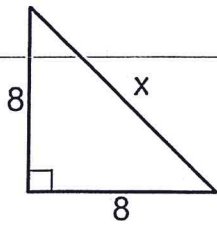
$\sin C =$

$\cos B =$



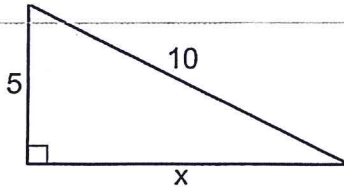
Find the exact value of the missing sides using Pythagorean Theorem. Simplify your answers.

1.



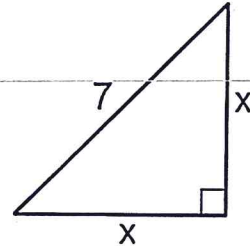
$$\begin{aligned}
 x^2 &= 8^2 + 8^2 \\
 x^2 &= 64 + 64 \\
 x^2 &= 128 \\
 \sqrt{x^2} &= \sqrt{2(64)} \\
 \boxed{x} &= 8\sqrt{2}
 \end{aligned}$$

2.



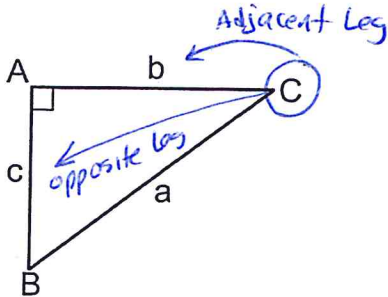
$$\begin{aligned}
 10^2 &= x^2 + 5^2 \\
 100 &= x^2 + 25 \\
 75 &= x^2 \\
 \sqrt{3 \cdot 25} &= \sqrt{x^2} \\
 \boxed{x} &= 5\sqrt{3}
 \end{aligned}$$

3.



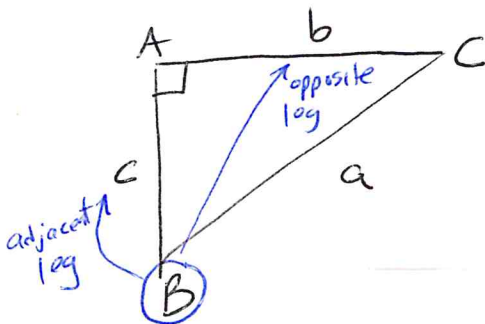
$$\begin{aligned}
 x^2 + x^2 &= 7^2 \\
 2x^2 &= 49 \\
 \sqrt{x^2} &= \sqrt{\frac{49}{2}} \\
 \boxed{x} &= \frac{7}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} \\
 \boxed{x} &= \frac{7\sqrt{2}}{2}
 \end{aligned}$$

4. Write each trigonometric ratio as a fraction. What do you notice? Can you explain why?



$$\boxed{\sin C = \frac{c}{a} \qquad \cos B = \frac{c}{a}}$$

$$\boxed{\sin C = \cos B}$$



- when you move from  $\angle C$  to  $\angle B$  opposite leg & adjacent leg switch
- for  $\sin C$  you need the opposite leg which is side c.
- for  $\cos B$  you need the adjacent leg which also happens to be side c.