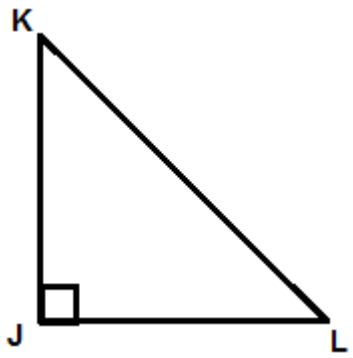
Lesson 8: Finding Missing Sides

Are You Ready? Possible Answers

1. Given the triangle below, complete the following:



a. the side opposite K is labeled as lower case **k**
b. the side adjacent K is labeled as lower case **l**
c. the side opposite L is labeled as lower case **l**
d. the side adjacent L is labeled as lower case **k**
e. the hypotenuse is labeled as lower case **j**

State the following as ratios using lower case letters:

f. $\sin K = \frac{k}{j}$

g. $\cos K = \frac{l}{j}$

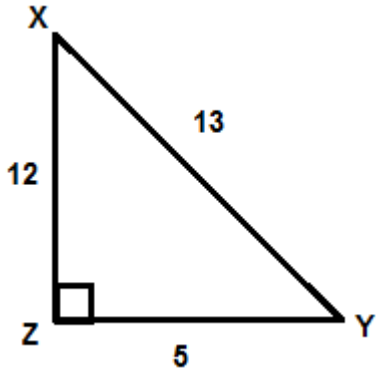
h. $\tan K = \frac{k}{l}$

i. $\sin L = \frac{l}{j}$

j. $\cos L = \frac{k}{j}$

k. $\tan L = \frac{l}{k}$

2. State the sin, cos and tan for both angle X and Y in the triangle below. State your answers in both fractional and decimal form (rounded to the nearest thousandth).



a. sin X = 5/13 = 0.385
b. cos X = 12/13 = 0.923
c. tan X = 5/12 = 0.417
d. sin Y = 12/13 = 0.923
e. cos Y = 5/13 = 0.385
f. tan Y =12/5 = 2.400

3. Use your calculator to find the following answers. Round your answers to the nearest thousandth.
a. sin 42^{o} =0.6690
b. cos 85^{o} =0.087
c. tan 66^{o} = 2.246

4. Solve the following ratios for the missing number.

a. $8 = \frac{x}{4}$

multiply each side by 4

$$4(8) = 4\left(\frac{x}{4}\right)$$

The 4's on the right cancel and we get
32 = x

b. $2.33 = \frac{5}{k}$

multiply each side by k

$$k(2.33) = k\left(\frac{5}{k}\right)$$

The k's on the right cancel and we get
K(2.33) = 5
Divide both sides by k

$$k\left(\frac{2.33}{2.33}\right)=\frac{5}{2.33}$$

k = 2.146