

Trig and Pythagorean Theorem Review

What is the Pythagorean Theorem formula?

$$a^2 + b^2 = c^2$$

Write out the Trig ratios. *Solt*

$\sin = \frac{\text{opp}}{\text{hyp}}$
 $\cos = \frac{\text{adj}}{\text{hyp}}$
 $\tan = \frac{\text{opp}}{\text{adj}}$

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Use Pythagorean Theorem. Your answers should be in simplest radical form.

1. $7^2 + 9^2 = c^2$
 $49 + 81 = c^2$
 $130 = c^2$
 $\sqrt{130} = \sqrt{c^2}$
 $13 \cdot 10 = 2 \cdot 5$
 $c = \sqrt{130}$

2. $12^2 + 18^2 = b^2$
 $144 + 324 = b^2$
 $468 = b^2$
 $\sqrt{468} = \sqrt{b^2}$
 $\sqrt{36 \cdot 13} = \sqrt{b^2}$
 $6\sqrt{13} = b$

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3. The tallest television transmitting tower in the world is in North Dakota, and it is 2059 feet tall. If you are on level ground exactly 5280 feet (one mile) from the base of the tower, what is your angle of elevation looking up at the top of the tower?

toa $\tan^{-1} \frac{2059}{5280}$

21°

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4. A damsel is in distress and is being held captive in a tower. Her knight in shining armor is on the ground below with a ladder. When the knight stands 15 feet from the base of the tower and looks up at his precious damsel, the angle of elevation to her window is 60 degrees. How long does the ladder have to be?

cah $\cos 60 = \frac{15}{x}$

5. Suppose you're flying a kite, and it gets caught at the top of the tree. You've let out all 100 feet of string for the kite, and the angle that the string makes with the ground is 75 degrees. Instead of worrying about how to get your kite back, you wonder. "How tall is that tree?"

soh

Mar 14-10:45 AM

Assignment:

Trig and Pythagorean Review Worksheet

Quiz Tomorrow!!

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