Trig Word Problems

Use a trig table to evaluate.

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| **EXAMPLE**  Approximately how long is the building’s shadow (round to the nearest tenth)?    *Set up the trig ratio first…*  *H: ???, O: 120, A: x TOA!* | 1. Approximately how long is the building’s shadow (round to the nearest tenth)? | 2. Approximately how long is the building’s shadow (round to the nearest tenth)? |
| **EXAMPLE**  A rope is tied to the top of a tree and anchored to the ground 10 ft away. Approximately how long is the rope (round to the nearest tenth)?    *H: x, O: ???, A: 10 CAH!* | 3. A rope is tied to the top of a 15-ft tree and anchored to the ground. Approximately how long is the rope (round to the nearest tenth)? | 4. A rope is tied to the top of a tree and anchored to the ground 30 ft away. Approximately how tall is the tree (round to the nearest tenth)? |
| **EXAMPLE**  Approximately how long is the person’s shadow (round to the nearest tenth)?    *H: ???, O: 5.2, A: x TOA!* | 5. Approximately how long is the person’s shadow (round to the nearest tenth)? | 6. Approximately how long is the person’s shadow (round to the nearest tenth)? |
| **EXAMPLE**  A ranger spots a fire from the top of a watchtower that is 150 ft tall. If the angle of depression from the top of the watchtower to the fire is 42˚, what is the horizontal distance between them? Round to the nearest foot.    *H: ???, O: 150, A: x TOA!* | 7. A ranger spots a fire from the top of a watchtower that is 400 ft tall. If the angle of depression from the top of the watchtower to the fire is 37˚, what is the horizontal distance between them? Round to the nearest foot. | 8. A ranger spots a fire from the top of a watchtower that is 250 ft tall. If the angle of depression from the top of the watchtower to the fire is 34˚, what is the horizontal distance between them? Round to the nearest foot. |
| **EXAMPLE**  In a triangle where *P* is a right angle, *PQ* = 24, and *QR* = 25. Determine to the nearest hundredth.  *First, draw it out. It doesn’t matter what it looks like, so long as it’s labeled correctly: P is a 90˚ angle, and the other two angles are Q & R.*  *H: 25, O: 24, A: ???*  *Normally, I’d say, “use SOH,” but the problem* ***asks for cosR****, which means I need* ***adj*** *and* ***hyp.***  ***Before I start, I’ll use*** *the* ***Pythagorean Theorem*** *to find adj.*  *H: 25, O: 24, A: 7 .*  *The problem asked for what equals. You found it. Stop.* | 9. In a triangle where *M* is a right angle, *LM* = 5, and *LN* = 13. Determine to the nearest hundredth. | 10. In a triangle where *F* is a right angle, *DF* = 6, and *EF* = 8. Determine to the nearest hundredth. |