Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Finding Missing Sides in Right Triangles**

When we are trying to find a **side** we use \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Remember:**

$$\sin(θ= \frac{ }{ } \cos(θ)=\frac{ }{ } \tan(θ)=\frac{ }{ })$$

Trig buttons:

* Appear as “\_\_\_\_\_\_\_\_\_\_\_”, “\_\_\_\_\_\_\_\_\_\_\_”, and “\_\_\_\_\_\_\_\_\_\_\_” on your calculator.
* **ALWAYS: Check that your calculator is in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MODE!!!**
1. Sin 20 ≈ \_\_\_\_\_\_\_\_\_
2. Tan 30 ≈ \_\_\_\_\_\_\_\_\_
3. Cos 5 ≈ \_\_\_\_\_\_\_\_\_
4. Sin 85 ≈ \_\_\_\_\_\_\_\_\_
5. Tan 69 ≈ \_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Step 1** |  |
| **Step 2** |  |
| **Step 3** |  |

|  |  |
| --- | --- |
| **Ex. 6 Figure out which ratio to use, then find x. *Round to the nearest tenth*.** | **Ex. 7 Find the missing side. Round to the nearest tenth.** |
| **Ex. 8 Find the missing side. Round to the nearest tenth.** | **Ex. 9 Find θ. Round to the nearest degree.** |

**Depression and Elevation**

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**Practice: Classify each of the numbered angles as angle of depression or angle of elevation**

1.
2.
3.

****

**Ex 5. A construction worker leans his ladder against a building making a 60o angle with the ground. If his ladder is 20 feet long, how far away is the base of the ladder from the building?**

**Ex 6. The angle of depression from the top of a tower to a boulder on the ground is 38º. If the tower is 25m high, how far from the base of the tower is the boulder? Round to the nearest whole number.**

**Ex 7. The outline of a teepee is shaped like an equilateral triangle. If the sticks on the side are 12 feet long how tall is the teepee?**