Isolating *x* for Trig

Once you set up your trig ratio, the next step is to get the side you’re looking for (we’ll call it *x* here) by itself.

The process is fairly straightforward:

1. Put the sin/cos/tan(angle) over 1 (so that it becomes a fraction),

2. Cross multiply.

3. *If the* x *is not already alone,* divide both sides by the sin/cos/tan(angle)

**DO NOT MULTIPLY, DIVIDE OR SIMPLIFY USING THE TRIG ANGLE! LEAVE IT IN THE TRIG AS IS.**

If *x* is the angle inside the trig, then you cannot get it alone with what you know how to do now. All you can do is write the fraction that it equals as a decimal to 4 digits (you’ll know why soon).

For each of the following problems, the trig has already been set up for the problem. Isolate *x*.

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| **EXAMPLE**  *First, put the trig over 1.*  *Then, cross multiply.*  *If* x *is alone, you’re done.* | **EXAMPLE**  *First, put the trig over 1.*  *Then, cross multiply.*  *Since* x *is not alone, divide by the trig.* | **EXAMPLE**  *First, put the trig over 1.*  *Then, cross multiply.*  *Since* x *is not alone, divide by the trig.* | **EXAMPLE**  *Since the angle is* x*, you cannot get* x *alone yet.*  *Instead, use long division to write as a decimal to four places.* |
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