

Tangent Ratio Worksheet

Name: _____

Remember, the "Tangent Ratio" is the ratio of the Length of the Opposite side divided by the Length of the Adjacent side, or O/A

When the variable (such as X) is on top, then cross **multiply**

For example:

$$\tan(57) = X/5$$

$$5 \times \tan(57) = X$$

$X = 7.699 \rightarrow$ Remember, this is the length of a side of a triangle. LENGTH, not degree...

Solve for X

1. $\tan(23) = X/9$

2. $\tan(67) = X/11$

3. $\tan(42) = X/33$

4. $\tan(11) = X/21$

5. $\tan(15) = X/8$

6. $\tan(78) = X/18$

7. $\tan(34) = X/10$

8. $\tan(45) = X/1$

9. $\tan(30) = X/34$

10. $\tan(21) = X/4$

Is X the Opposite, or the Adjacent in all of these problems

When the variable (such as X) is on Bottom, then cross **divide**

For example:

$$\tan(57) = 5/X$$

$$5 / \tan(57) = X$$

$$X = 3.24$$

Notice that in either solution, it starts with the number (for example 5) and then you either divide or multiply next...

Solve for X

1. $\tan(23) = 8/X$

2. $\tan(67) = 9/X$

3. $\tan(42) = 21/X$

4. $\tan(11) = 25/X$

5. $\tan(15) = 45/X$

6. $\tan(78) = 18/X$

7. $\tan(34) = 11/X$

8. $\tan(45) = 1/X$

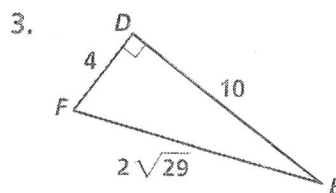
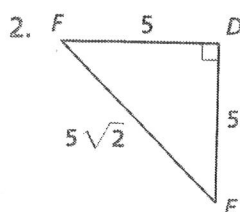
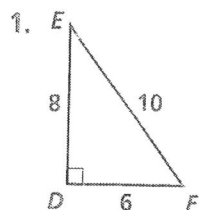
9. $\tan(30) = 40/X$

10. $\tan(21) = 2/X$

Practice 9-1

The Tangent Ratio

Write the tangent ratios for $\angle E$ and $\angle F$.



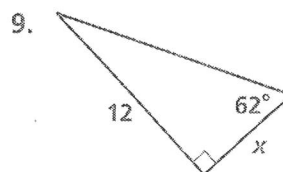
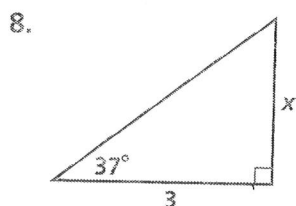
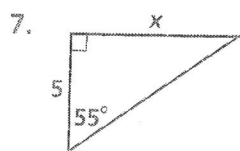
Find each missing value. Round your answers to the nearest tenth.

4. $\tan 46^\circ = \frac{?}{12}$

5. $\tan ? = \frac{3}{5}$

6. $\tan 12^\circ = \frac{3}{?}$

Find the value of x . Round your answers to the nearest tenth.



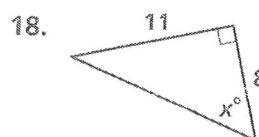
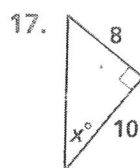
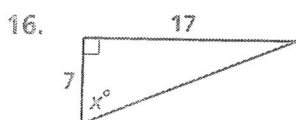
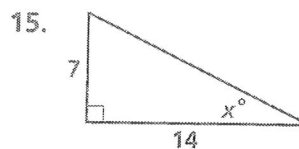
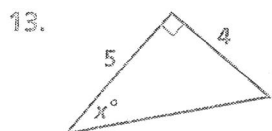
To the nearest tenth, find the measure of the acute angle that the given line forms with a horizontal line.

10. $y = 5x + 3$

11. $y = \frac{1}{2}x + 4$

12. $y = 3x - 6$ omit

Find the value of x . Round your answers to the nearest degree.



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