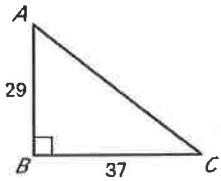
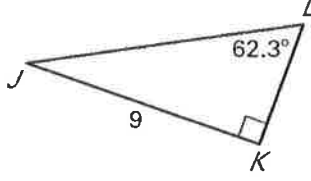
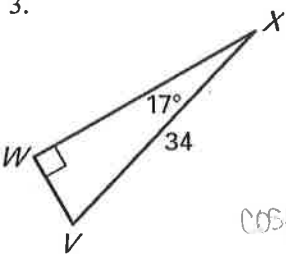
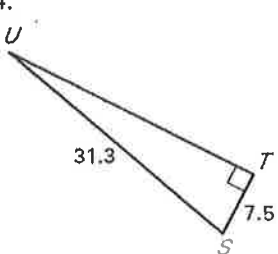


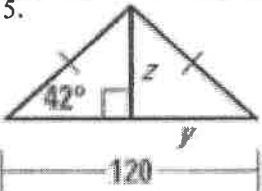
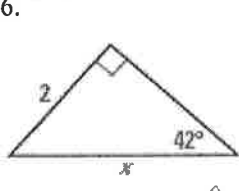
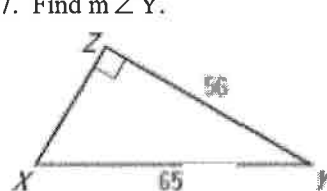
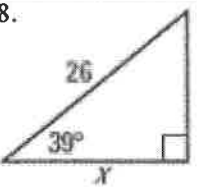
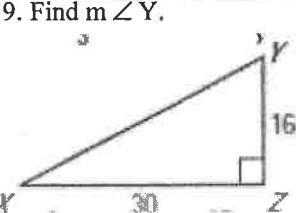
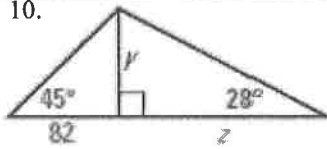
**Math Applications**  
**Test Review Worksheet**  
**Trigonometry**

Name: Key

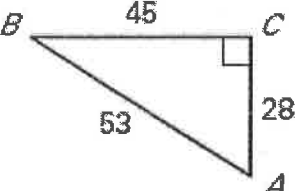
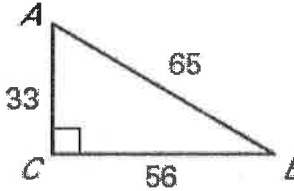
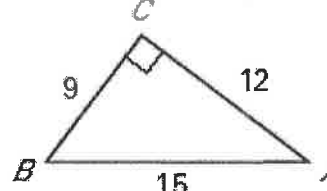
Find the measures of all missing sides and angles of the right triangles.

<p>1. </p> <p><math>\tan(A) = \frac{37}{29}</math>  <math>A = 51.91^\circ</math></p> <p><math>\tan(C) = \frac{29}{37}</math>  <math>C = 38.09^\circ</math></p> <p><math>29^2 + 37^2 = AC^2</math>  <math>AC = 47.01</math></p>	<p>2. </p> <p><math>\tan(62.3) = \frac{9}{LK}</math>  <math>LK = 4.73</math></p> <p><math>\sin(62.3) = \frac{9}{JL}</math>  <math>JL = 10.16</math></p> <p><math>\tan(J) = \frac{4.73}{9}</math>  <math>J = 27.72^\circ</math></p>
<p>3. </p> <p><math>\sin(17) = \frac{WV}{34}</math>  <math>WV = 9.94</math></p> <p><math>\cos(17) = \frac{WX}{34}</math>  <math>WX = 32.51</math></p> <p><math>\sin(V) = \frac{32.51}{34}</math>  <math>V = 72.97^\circ</math></p>	<p>4. </p> <p><math>\sin(U) = \frac{7.5}{31.3}</math>  <math>U = 13.86^\circ</math></p> <p><math>\cos(S) = \frac{7.5}{31.3}</math>  <math>S = 76.14^\circ</math></p> <p><math>7.5^2 + b^2 = 31.3^2</math>  <math>UT = 30.39</math></p>

Find the missing variables or the requested value.

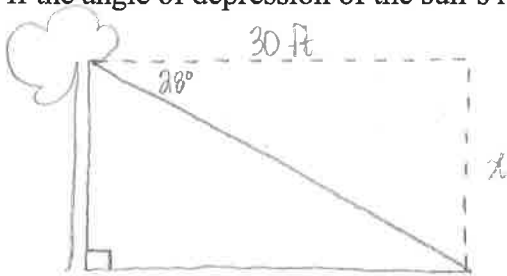
<p>5. </p> <p><math>y = 60</math></p> <p><math>\cos(42) = \frac{z}{60}</math>  <math>z = 44.59</math></p>	<p>6. </p> <p><math>\sin(42) = \frac{z}{x}</math>  <math>x = 2.99</math></p>	<p>7. Find <math>m\angle Y</math>.</p> <p></p> <p><math>\cos(Y) = \frac{56}{65}</math>  <math>Y = 30.51^\circ</math></p>
<p>8. </p> <p><math>\cos(39) = \frac{x}{26}</math>  <math>x = 20.21</math></p>	<p>9. Find <math>m\angle Y</math>.</p> <p></p> <p><math>\tan(Y) = \frac{30}{16}</math>  <math>Y = 61.93^\circ</math></p>	<p>10. </p> <p><math>\tan(45) = \frac{y}{82}</math>  <math>y = 82</math></p> <p><math>\tan(28) = \frac{82}{z}</math>  <math>z = 154.22</math></p>

Find the  $\sin A$ ,  $\cos A$ , and  $\tan A$  written as a fraction and a decimal to 4 decimal places.

<p>11. </p> <p>Sin A <math>\frac{45}{53}</math> _____</p> <p>Cos A <math>\frac{28}{53}</math> _____</p> <p>Tan A <math>\frac{45}{28}</math> _____</p>	<p>12. </p> <p>Sin A <math>\frac{56}{65}</math> _____</p> <p>Cos A <math>\frac{33}{65}</math> _____</p> <p>Tan A <math>\frac{56}{33}</math> _____</p>	<p>13. </p> <p>Sin A <math>\frac{9}{15}</math> _____</p> <p>Cos A <math>\frac{12}{15}</math> _____</p> <p>Tan A <math>\frac{9}{12}</math> _____</p>
--	--	--

Draw a picture and find the missing information for each word problem.

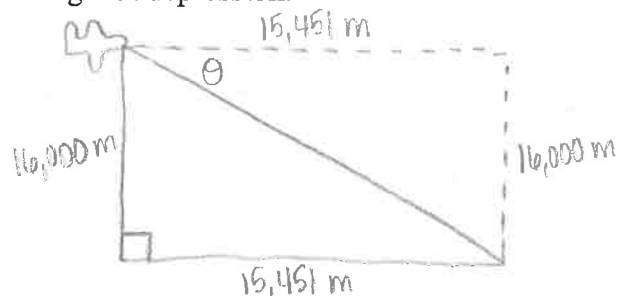
14. If the angle of depression of the sun's rays is  $28^\circ$ , find the height of a tree whose shadow is 30 feet long.



$$\tan(28) = \frac{x}{30}$$

$$x = 15.95 \text{ ft}$$

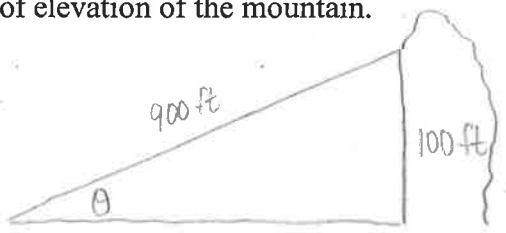
15. A pilot is flying at an altitude of 16,000 meters. If his ground distance from the airport is 15,451 meters, find his angle of depression.



$$\tan \theta = \frac{16,000}{15,451}$$

$$\theta = 46^\circ$$

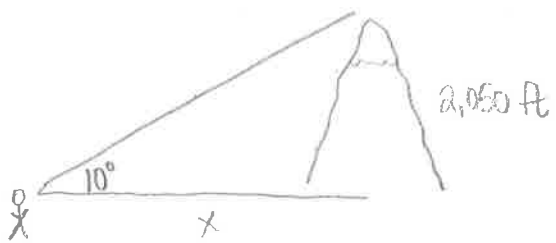
16. You are skiing on a path (hypotenuse) that is 900 feet long. If the vertical drop of the mountain is 100 feet, find the angle of elevation of the mountain.



$$\sin(\theta) = \frac{100}{900}$$

$$\theta = 6.38^\circ$$

17. Sally is looking at the top of a mountain. It is 2,050 feet high. If Mike is 6 feet tall (eye level) and he is looking up at a  $10^\circ$  angle, how far is he from the mountain?



$$\tan(10) = \frac{2050}{x}$$

$$x = 11,626.13 \text{ ft}$$



Fill in the table of trigonometric ratios of special right triangles.

	30°	45°	60°
Sin	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
Cos	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
Tan	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

Find the ratio given the trigonometric function for each angle. Draw a picture of the special right triangle in the given position if you need a reference!

18.  $\sin(60^\circ)$

$\frac{\sqrt{3}}{2}$

19.  $\cos(135^\circ)$

$-\frac{\sqrt{2}}{2}$

20.  $\sin(225^\circ)$

$-\frac{\sqrt{2}}{2}$

21.  $\tan(150^\circ)$

$-\frac{\sqrt{3}}{3}$

22.  $\cos(30^\circ)$

$\frac{\sqrt{3}}{2}$

23.  $\sin(300^\circ)$

$-\frac{\sqrt{3}}{2}$

24.  $\cos(240^\circ)$

$-\frac{1}{2}$

25.  $\tan(330^\circ)$

$-\frac{\sqrt{3}}{3}$

26.  $\sin(45^\circ)$

$\frac{\sqrt{2}}{2}$

27.  $\tan(300^\circ)$

$-\sqrt{3}$

28.  $\cos(225^\circ)$

$-\frac{\sqrt{2}}{2}$

29.  $\sin(150^\circ)$

$\frac{1}{2}$

