

**Draw a sketch of the situation below and solve the problem.**

1. A kite is flying in the air using 100 yards of string from the kite to the ground. The string of a kite is tethered to the ground. The string makes an angle of elevation of 68 degrees with the ground. How high in the air is the kite?

2. A plane is preparing to land. The angle of depression from the plane to the spot on the runway where it should touch down is 35 degrees. The plane's current altitude is about 2000 ft. How far is the plane from the spot on the runway?

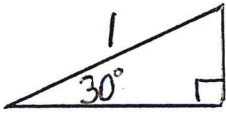
**Trig Identities. Use triangle ABC to verify the following identities.**

3.  $\sin^2 A + \cos^2 A = 1$

4.  $\frac{\sin A}{\cos A} = \tan A$

**Trig ratios for Special Right Triangles. Use what you know about these special angles to find the exact values for their sine, cosine, and tangent ratios.**

5.



$\sin 30^\circ =$

$\cos 30^\circ =$

$\tan 30^\circ =$

6.

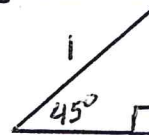


$\sin 60^\circ =$

$\cos 60^\circ =$

$\tan 60^\circ =$

7.



$\sin 45^\circ =$

$\cos 45^\circ =$

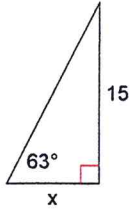
$\tan 45^\circ =$

6.  $\cos A = \frac{3}{4}$  find the  $\sin A$  and  $\tan A$

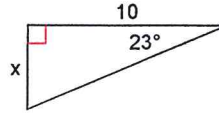
7.  $\sin A = \frac{6}{7}$  find the  $\cos A$  and  $\tan A$

Find the value of  $x$ . Give exact answer and decimal estimate.

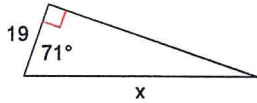
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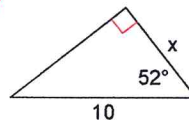
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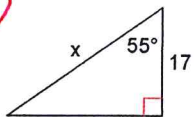
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13)



14)



15)

