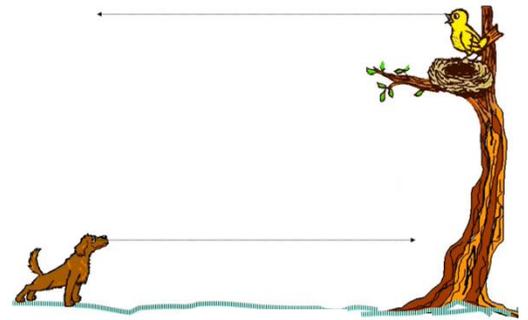


Core Concept

Angles of Elevation and Depression:

The Angle of Elevation from the _____ to the _____ is the angle between the line of sight and _____.

The Angle of Depression from the _____ to the _____ is the angle between the line of sight and _____.

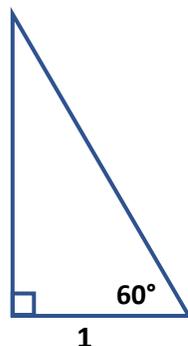
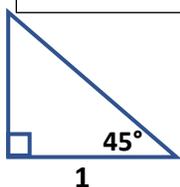


<p>1)</p>	<p>a) $\angle 1$ is the angle of _____ from _____ to _____.</p> <p>b) $\angle 2$ is the angle of _____ from _____ to _____.</p> <p>c) $\angle 3$ is the angle of _____ from _____ to _____.</p> <p>d) \angle _____ is the angle of elevation from G to P.</p> <p>Remember...for <i>angles of elevation or depression</i> one side is always <u>HORIZONTAL!</u></p>
<p>2)</p>	<p>A person in the light house sights a boat in the distance with a 22° angle of depression. If the person in the lighthouse is 55 feet above the water, determine the line of site distance from the person in the light house to the boat.</p>

Core Concept

Using Special Right Triangles to find exact trigonometric values:

Fill in missing side lengths on \triangle 's



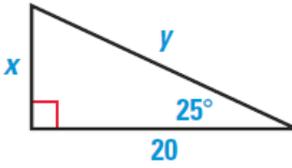
Find each value in simple radical form. No decimals.

a) $\sin(30^\circ)$	b) $\tan(45^\circ)$	c) $\cos(60^\circ)$
d) $\tan(30^\circ)$	e) $\cos(45^\circ)$	f) $\cos(30^\circ)\sin(60^\circ)$

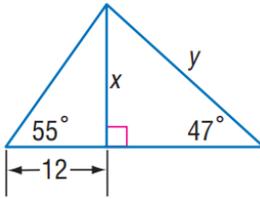
- | | |
|---|---|
| <p>1) Copy the special right triangles from the note sheet onto your homework paper. Use those triangles to find the value of each expression in simple radical form. Copy the problem on your paper.</p> <p>a) $\cos(30^\circ)$ b) $\tan(60^\circ)$ c) $\cos(60^\circ) - \tan(45^\circ)$
 d) $\sin(60^\circ)\tan(60^\circ)$ e) $\sin(45^\circ)\cos(45^\circ)$</p> | <p>2) A ladder is leaning against the side of a house and forms a 65° angle of elevation with the ground. The foot of the ladder is 8 feet from the house. Find the length of the ladder. Draw a picture and show work neatly.</p> |
| <p>3) When the sun's angle of elevation is 57° a building cast a shadow that is 21 meters long. How tall is the building? See diagram below. Copy the drawing on your paper and show work neatly.</p> | <p>4) A ranger in a look out tower spots a fire off in the distance. The angle of depression from the tower to the fire is 12° and the tower is 50 feet tall. Find the distance from the base of the tower to the fire. See diagram below. Copy the drawing on your paper and show work neatly.</p> |

5) Find the value of x and y . Copy the figure on your paper.

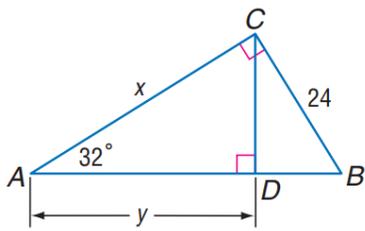
a)



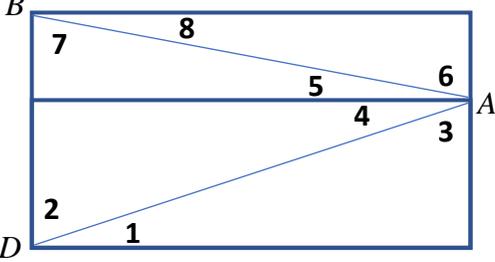
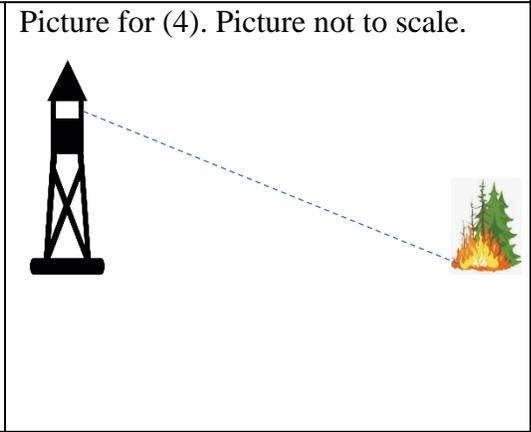
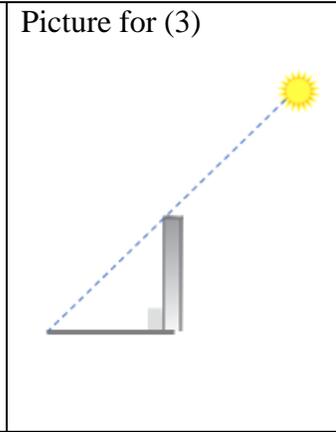
b)



c)

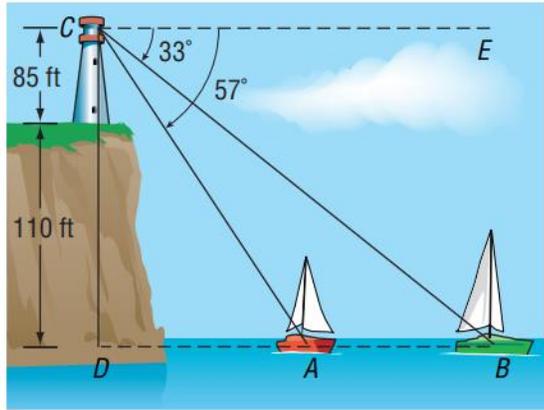


6) a) Which angle is the angle of elevation from A to B .
 b) Which angle is the angle of depression from B to A ?

Challenge:

7)



Olivia is in a lighthouse on a cliff. She observes two sailboats due east of the lighthouse. The angles of depression to the two boats are 33° and 57° . Find the distance between the two sailboats to the nearest foot.

Do work on your paper.