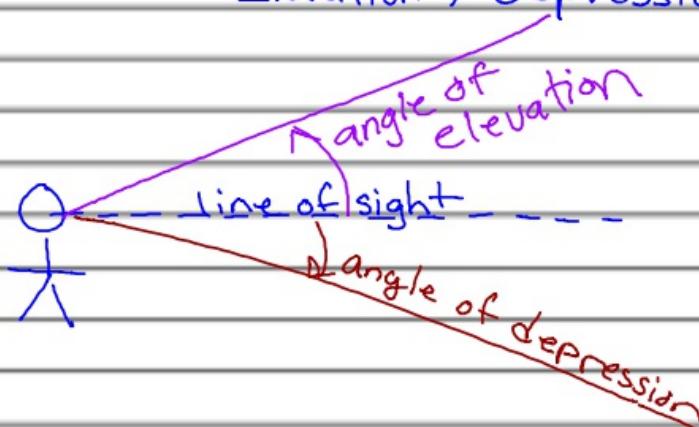
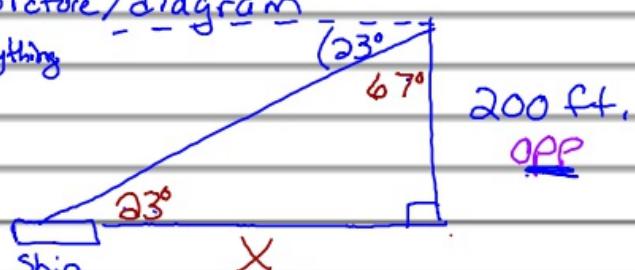
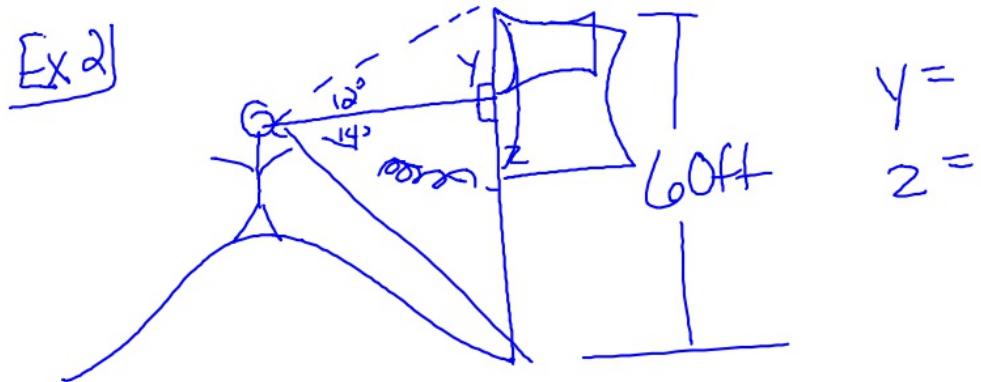
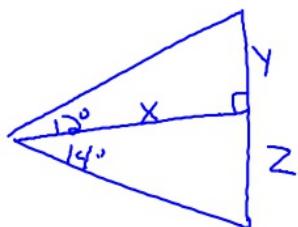


Cornell Notes 	Topic/Objective: Applications of Right Triangles	Name:
		Class/Period: 4
		Date: 9/20/16
Essential Question:	What are <del>the</del> some applications for right triangles?	
Questions:	Notes:	
	<p>Angles of Inclination/Declination Elevation / Depression</p>  <p>The diagram illustrates the concepts of angle of elevation and angle of depression. A horizontal dashed line represents the "line of sight". From a point on this line, two other lines extend upwards and downwards at different angles. The angle between the dashed line and the upper line is labeled "angle of elevation". The angle between the dashed line and the lower line is labeled "angle of depression".</p>	
	<p>Ex) From the top of a 200ft lighthouse, the angle of depression to the sea is 23 degrees down to a ship. How far is the ship from the base of the lighthouse?</p> <p>*Draw a picture/diagram *Assume everything is level</p>  <p>The diagram shows a right-angled triangle. The vertical leg is labeled "200 ft. opp" (opposite). The horizontal leg is labeled "adj" (adjacent). The angle at the bottom-left vertex, between the horizontal leg and the hypotenuse, is labeled "23°". The angle at the top vertex, between the vertical leg and the hypotenuse, is labeled "67°".</p>	
	$\tan(23^\circ) = \frac{200}{x}$ $x = \frac{200}{\tan 23^\circ} \approx 471 \text{ ft.}$	

Ex 2)



$$y + z = 60 \text{ ft}$$



$$\begin{aligned} 2x + 2y \\ 2(x+y) \end{aligned}$$

$$\tan 12^\circ = \frac{y}{x}$$

$$x \tan 12^\circ = y$$

$$\tan 14^\circ = \frac{z}{x}$$

$$x \tan 14^\circ = z$$

$$x \tan 12^\circ + x \tan 14^\circ = 60$$

$$\frac{x(\tan 12^\circ + \tan 14^\circ)}{\tan 12^\circ + \tan 14^\circ} = \frac{60}{\tan 12^\circ + \tan 14^\circ}$$

$$\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$$

$$\tan(\alpha + \beta) = \frac{\sin(\alpha + \beta)}{\cos(\alpha + \beta)} = \frac{\sin \alpha \cos \beta + \cos \alpha \sin \beta}{\cos \alpha \cos \beta - \sin \alpha \sin \beta}$$