<name>
Class: Honors Geometry
Date: <date>
Topic: Lesson 9-3 (Angles of Elevation and Depression)

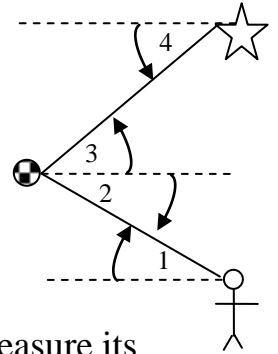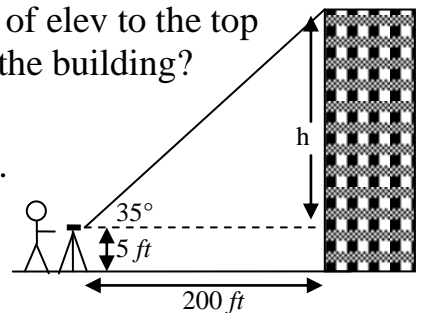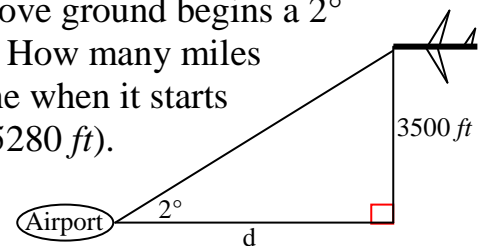|	
Angle of Elevation	$\angle$ measured fm horiz line thru view pt. **up** to object **above** it.
Angle of Depression	$\angle$ measured fm horiz line thru view pt. **down** to object **below** it.
Identifying angles of elevation/depression	*From/to* relationship. *From* the view point *to* the object.
Examples	1. Describe ea $\angle$ as relates to this situation: $\angle 1$: $\angle$ of elevation fm the player to the ball. $\angle 2$: $\angle$ of depression fm the ball to player. $\angle 3$: $\angle$ of elevation fm the ball to the star. $\angle 4$: $\angle$ of depression fm the star to the ball. 2. A surveyor stands 200 *ft* fm a building to measure its height w/5 *ft* tall theodolite. The $\angle$ of elev to the top of the building is $35°$. How tall is the building? First, draw the situation. …measuring fm 5 *ft* off ground. Next, what info do we have? $\angle$ measure & len adj side. What do we want to find? Len opp side $\rightarrow$ use the tangent ratio. $\tan 35 = \dfrac{h}{200}$; $h = 200\tan 35 = 140.04 \approx 140\, ft$ Building height $= 140 + 5 = 145\, ft$. 3. An airplane flying 3500 *ft* above ground begins a $2°$ descent to land at an airport. How many miles from the airport is the airplane when it starts its descent? (note: 1 mile $= 5280\, ft$). $\tan 2° = \dfrac{3500}{d}$; $d = \dfrac{3500}{\tan 2°} = 100,226.88 = 18.98\, miles \approx 19\, miles$