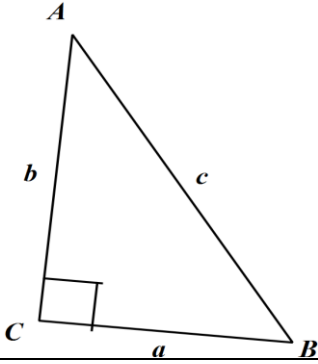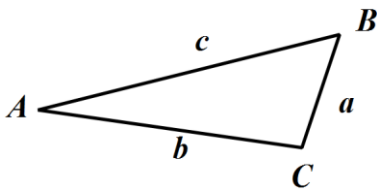**Objective:**

A. Right Triangle Reminders

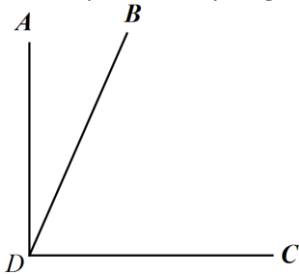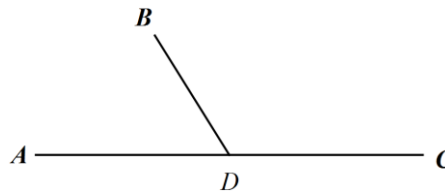|	1. Right triangle trigonometric functions:
2. How to solve for a side if given 2 sides:	3. How to find an angle:

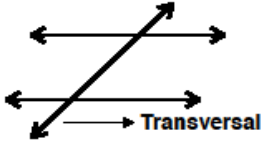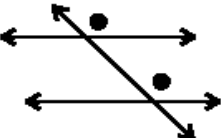**B.** Information on all triangles

	1. Triangle Sum Theorem:
2. Complementary Angles:	3. Supplementary Angles:
4. How to solve if given AAS, ASA, ASS:	5. How to solve if given SAS, SSS:
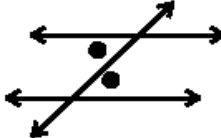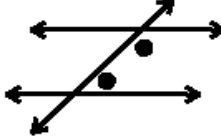
Parallel Lines
CUT BY A
Transversal

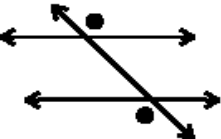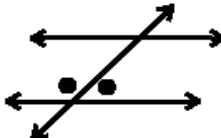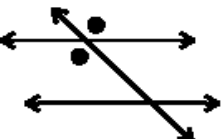| Definition	Diagram
Transversal A transversal is a line that intersects two or more lines at different points.	
Corresponding Angles Two angles that lie on the same side of the transversal in corresponding positions.	
Alternate Interior Angles Interior angles that lie on opposite sides of the transversal.	
Alternate Exterior Angles Exterior angles that lie on opposite sides of the transversal.	
Supplementary Angles Two (or more) angles whose sum is 180°.	
Vertical Angles Two angles whose sides form opposite rays.	
Consecutive Interior Angles Angles that lie on the same side of the transversal between two lines.	

D. Directions

Vocabulary: Bearing, heading, in the direction of

N

W ← → E

S
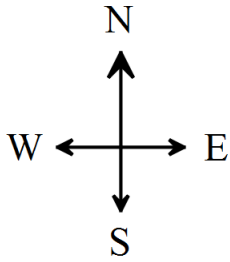
1. $S44°W$	2. $N72°E$

E. Descriptions of angles and variables

1. Define your variables:	2. Line of sight:
3. Angle of Elevation:	4. Angle of depression:

E. DRAW pictures!!!!!!!

Example 1

The Sandlot boys are sitting in the treehouse looking at The Beast. The angle of depression from their line of sight to The Beast is $17°$. If The Beast is standing 34 feet away from the base of the treehouse, how tall is the treehouse? Round to the nearest tenth.

Example 2

A ladder leans against a house. The ladder is 8 feet tall. The distance from the bottom of the ladder to the bottom of the house is 6 feet. How far up the house does the ladder go? Round to the nearest tenth of a foot.

<u>Example 3</u>
Two fire-lookout stations are 15 miles apart, with station B directly west of station A. Both stations spot a fire. The bearing of the fire from station A is S 28° W and the bearing of the fire from station B is S 49°E. How far, to the nearest tenth of a mile, is the fire from each lookout station?

<u>Example 4</u>
A helicopter is hovering 800 feet above a road. A truck driver observes the helicopter at a twenty-degree angle. Twenty-five seconds later the truck driver notices the angle of the helicopter is now at sixty degrees. How fast is the truck moving? Round your answer to the nearest foot.

<u>Example 5</u>
Two tourists are 125 feet apart on opposite sides of a monument. The angles of elevation from the tourists to the top of the monument are 47° and 65°. Find the height of the monument to the nearest foot.

<u>Example 6</u>
Observatory B is 20 miles east of observatory A in the middle of the desert. A car leaves A and drives 16 miles towards a meteor sighting. Currently, it is sighted from B. If the car is N51°W from observatory B, how far from observatory B is the car? Round your answer to the nearest tenth of a mile.