Name _____

Reminders:
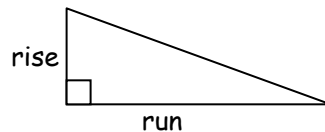
Angle of Depression is equal to
Angle of Elevation
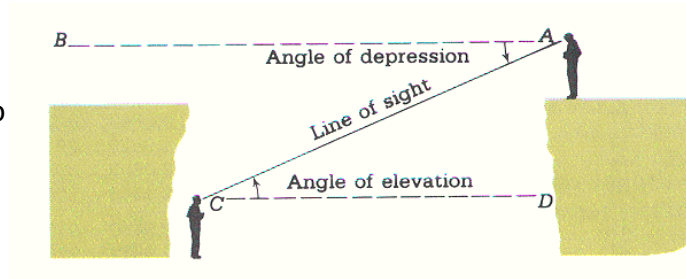
1. When the angle of elevation of the sun is 62°, a building casts a shadow 18 m long. How tall is the building?

2. The angle of depression from the top of a tower to a boulder on the ground is 38°. If the tower is 25 m high, how far from the base of the tower is the boulder?

3. A guy wire is attached from the top of a tower to a point on the ground. The base of the tower is 35 m from the end of the wire on the ground. If the wire makes a 65° angle with the ground, how long is the wire?

4. An observer at the top of a building sees a car on the road below. The angle of depression to the car is 28°. If the car is about 50 m from the building when it is seen, how tall is the building?

5. From a point 80 m from the base of a tower, the angle of elevation to the top of a tower is 28°.   How tall is the tower?

6. A ladder that is 20 ft. long is leaning against the side of a building. If the angle formed between the ladder and ground is 75°, how far is the bottom of the ladder from the base of the building? If you lean a 10 foot ladder at the same angle, how far up the building will it reach?

7. The grade of a road is the ratio $\dfrac{rise}{run}$, usually expressed as a percent. For example, a railway with a grade of 5% rises 5 ft.   for every 100 ft. of horizontal distance. The world's steepest railway is the Katoomba Scenic Railway in the Blue Mountains of Australia. It has a grade of 122%.   At what angle does this railway go up?


8. A person at a window, 50 feet above the street sights points on the building directly across the street. If the angle of elevation to the top of the building is 70°, while the angle of depression to sight the bottom of the building is 30°, find the height of the building to the nearest thousandth of a foot.

9. If the area of the rectangle is 144 ft^2, find the measure of the angle x.

16
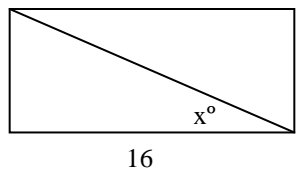
10. Find the area of the triangle:

A = _____

52°

16
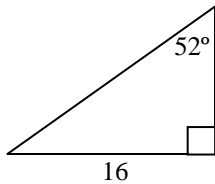
11. Ms. Worthington is flying a kite directly over her friend, Cathy, who is 125 meters away. When she holds the kite string down to the ground, the string makes a 39° angle with the level ground. How high is Ms. Worthington's kite?

12. Meteorologist Stormy Grey uses a clinometer (an angle-measuring device) on a 1-meter-tall tripod to find the height of a weather balloon. She views the balloon at a 44° angle of elevation. A radio signal from the balloon tells her that it is 1400 meters from her clinometers.

a. How high is the balloon?

b. How far is she from the point directly below the balloon?

Trig Review Practice

Solve for x and/or y in each problem. Round sides to the thousandths and angles to the nearest whole degree.

	A	B	C	D	E	F	G
1	70° 75, y, x	y, 15, 60°, x	12, y°, y°, 14	x, x, 6, 47°, y	5, 31, x°	x, 51°, 12	56°, x, 10
2	x, x, 75°, 44	6, x°, y, 3	x°, 21, 19	9.5, x°, 9	y, 52°, 34, x	x, 17°, 74	250, 65°, 25°, x, y