Name: _____ Date: _____ Row: _____ Period: _____

NOTES SECTION 8.7: APPLICATIONS OF RIGHT TRIANGLE TRIGONOMETRY

ANGLE OF ELEVATION & ANGLE OF DEPRESSION

#1-7: Express lengths correct to the nearest meter and angles correct to the nearest degree.

1) You are flying a kite and have let out 80 m of string. The kite's angle of elevation with the ground is _____. If the string is stretched straight, how high is the kite above the ground?

2) A helicopter (H) is hovering over a landing pad (P) 100 m from where you are standing (G). The helicopter's angle of elevation with the ground is _____. What is the altitude of the helicopter?

3) A tree casts a shadow 21 m long. The angle of elevation of the sun is _____. What is the height of the tree?

4) A 15 m pole is leaning against a wall. The foot of the pole is _____ from the wall. Find the angle the pole makes with the ground.

5) A guy wire reaches from the top of a 120 m television transmitter tower to the ground. The wire makes a _____ angle with the ground. Find the length of the guy wire.

6) An airplane climbs at an angle of _____ with the ground. Find the ground distance the plane travels as it moves 2500 m through the air. Give your answer to the nearest 100 m.

7) A lighthouse operator at point *P* 25 m above sea level sights a sailboat at point *S*. The angle of depression of the sighting is _____. How far is the boat from the base of the lighthouse? Give your answer to the nearest 10 m.