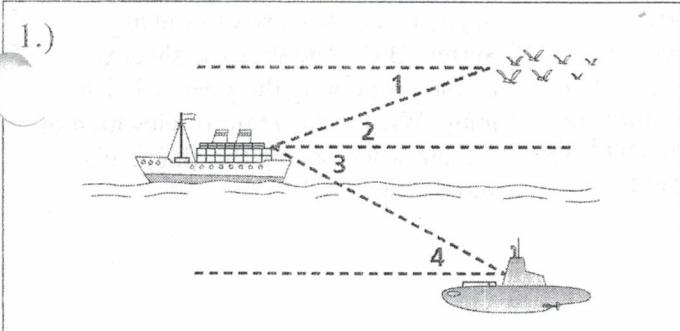
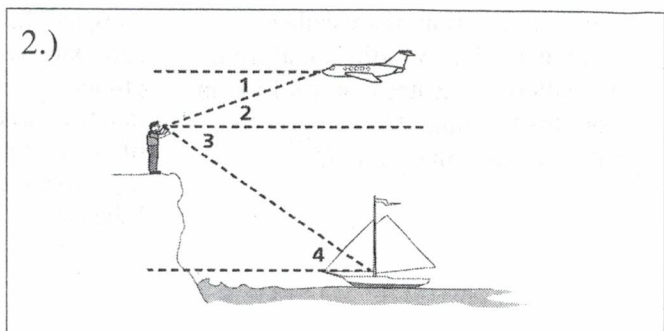


I. Describe each angle as it relates to the diagram.

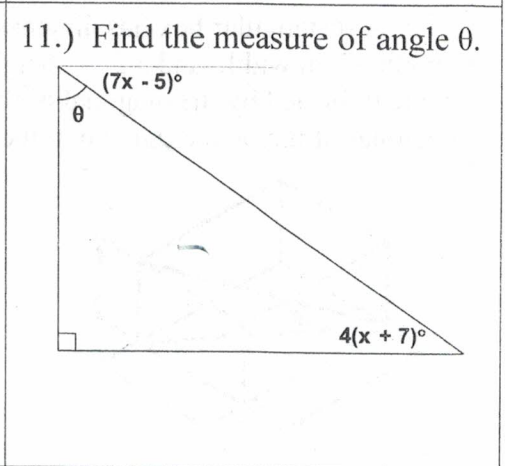
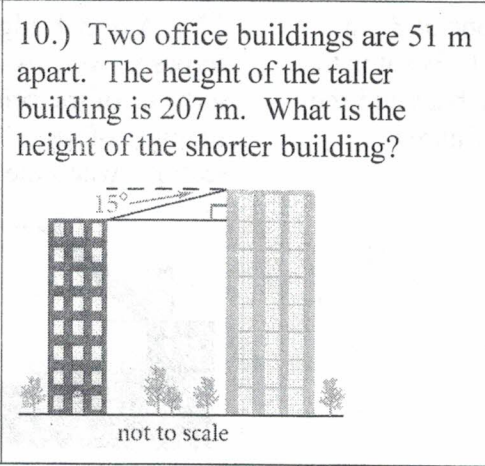
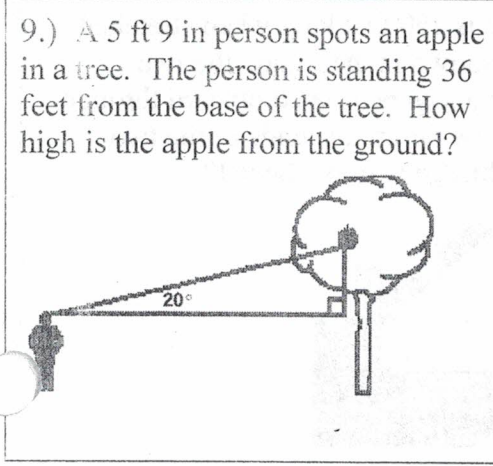
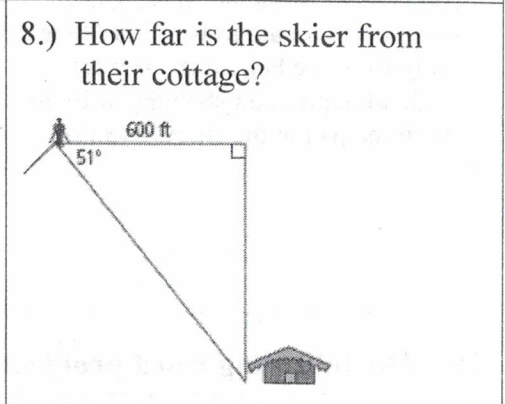
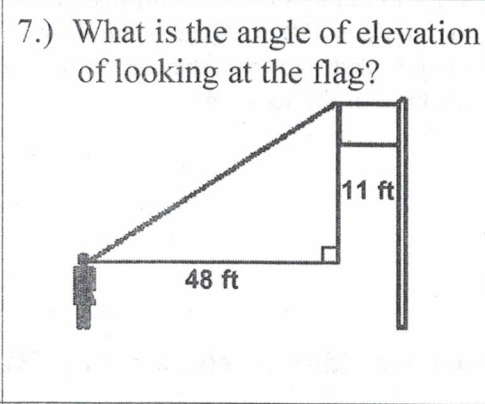
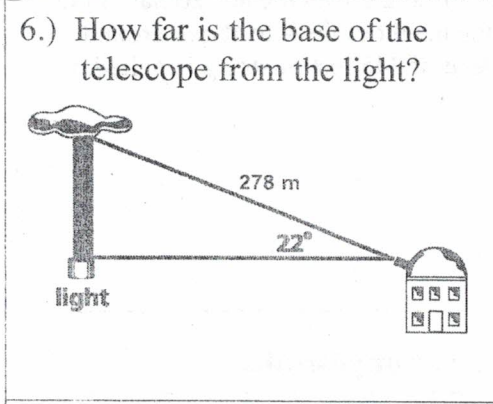
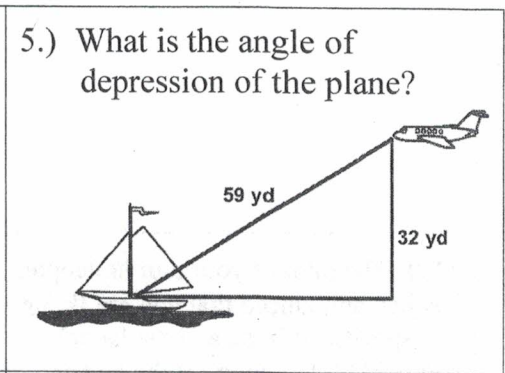
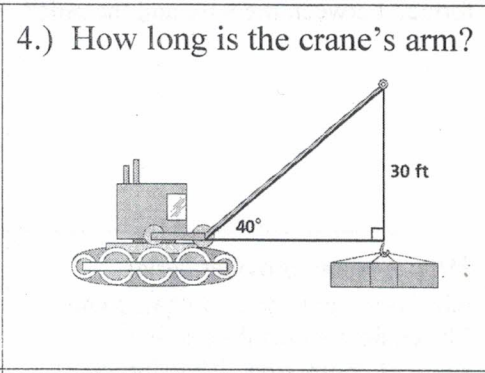
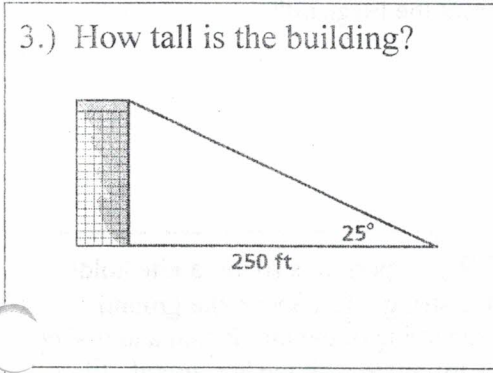


- a.) Angle 1 →
- b.) Angle 2 →
- c.) Angle 3 →
- d.) Angle 4 →



- a.) Angle 2 →
- b.) Angle 3 →
- a.) Angle 1 →
- a.) Angle 4 →

II. Label each diagram and complete each word problem. Round to tenth place. Show work!

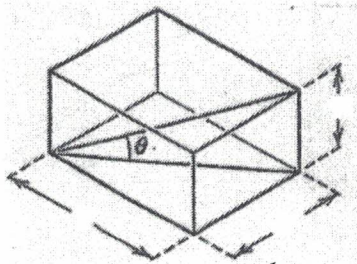


III. Draw/label a diagram and complete each word problem. Round to tenth place. Show work!

<p>12.) A meteorologist measures the angle of elevation of a weather balloon as 41°. A radio signal from the balloon indicates that it's 1503 m from his location. How high is the balloon above the ground?</p>	<p>13.) A tourist looks out from the crown of the Statue of Liberty, approximately 250 feet above the ground. The tourist sees a ship coming into the harbor and measures the angle of depression to be 18°. What far is the ship from the base of the Statue of Liberty?</p>	<p>14.) The world's tallest unsupported flagpole is a 282-ft steel pole in Surrey, B.C. The shortest shadow cast by the pole during the year is 137 ft long. What is the angle of elevation of the sun when casting the flagpole's shortest shadow?</p>
<p>15.) A 30-ft ladder is leaning against a building making a 72° with the ground. How far is the bottom of the ladder from the base of the building?</p>	<p>16.) A telephone pole is 48 feet tall. A 840 inch guy wire is attached from the ground to the top of the pole. What is the measure of the angle formed between the wire and the pole?</p>	<p>17.) A lifeguard sitting on a 10-ft lifeguard stand. She looks down and spots a swimmer with a 55° angle in distress. How far is the swimmer from the lifeguard?</p>
<p>18.) The pilot of your tour helicopter has just announced that you are flying at a specific altitude and the launch pad is 8500 feet long. If the launch pad where you are to land is 9740 feet away from the helicopter, at what angle of depression should you fly to reach the pad in the shortest time?</p>	<p>19.) A blimp provides aerial television views of a football game. The camera sights the stadium at a 7° angle of depression. The altitude of the blimp is 400 m. What is the line-of-sight distance from the camera to the base of the stadium?</p>	<p>20.) A person is flying a kite holds the string 4 feet above the ground. The string of the kite is taut and makes a 36° angle with the horizontal. Find the height of the kite above ground level if 345 feet of string is pulled out.</p>

IV. The following word problems are considered "challenging" BUT not impossible.

21.) A rectangular box has dimensions of 8" in length, 6" in width, and 3.5" in height. What is the angle θ formed by the diagonal of the base and the diagonal of the box, as shown in the figure?



22.) A drawbridge is 250 feet long when stretched across a river. As shown in the figure, the two sections of the bridge can be rotated upward through an angle of 48° . How far are the ends of the two sections when the bridge is fully opened?

