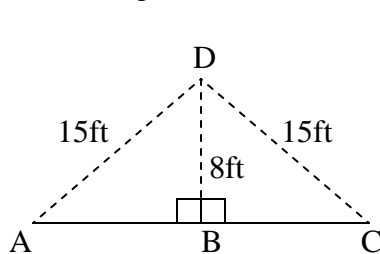
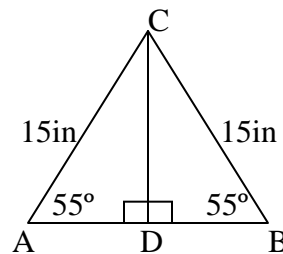


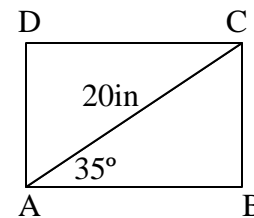
- From the top of a cliff 450 feet above sea level, the angle of depression of a boat out at sea is  $24^\circ$ . Find to the nearest foot, the distance from the top of the cliff to the boat.
- A television tower is 150 feet high and an observer is 120 feet from the base of the tower. Find, to the nearest degree, the angle of elevation of the top of the tower from the point where the observer is standing.
- The sliding board is popular at the Parkwood Preschool playground. The bottom of the slide is 1 foot off the ground, and the slide rises at an angle of  $50^\circ$  from the horizontal. If the slide is 10 feet long, how high off the ground is the top of the slide? (Answer to the nearest tenth of a foot)
- An 18-foot ladder leans against the side of a house that stands on level ground. The foot of the ladder is 10 feet from the house, Find:
  - to the nearest degree, the measure of the angle that the foot of the ladder makes with the ground.
  - to the nearest integer, the distance from the point where the top of the ladder touches the house to the ground.
- A telephone pole stands on level ground. A wire, attached to the pole at a point 30 feet above the ground, makes an angle of  $61^\circ$  with the ground. Find, to the nearest foot:
  - the distance from the base of the pole to the point on the ground where the wire is fastened
  - the length of the wire



Ex. 6



Ex. 7



Ex. 8

- The figure represents a view of the roof of a wing of a house.  $\overline{DB}$ , the altitude of  $\triangle ACD$ , measures 8 feet. Each of the rafters  $\overline{AD}$  and  $\overline{CD}$  measures 15 feet. Find, to the nearest degree, the measure of the angle that each rafter makes with  $\overline{AC}$ , the base of the triangle.
- In isosceles  $\triangle ABC$ ,  $\overline{AC}$  and  $\overline{BC}$  each measure 15 inches,  $m\angle A$  and  $m\angle B$  are each  $55^\circ$ , and  $AD = DB$ .
  - Find  $CD$  to the nearest tenth of an inch
  - Find  $AD$  to the nearest tenth of an inch
  - Find the area of triangle  $ABC$  to the nearest square inch
- In rectangle  $ABDC$ , diagonal  $\overline{AC}$ , which measures 20 inches in length, makes a  $35^\circ$  angle with base  $\overline{AB}$ .
  - Find  $AB$  to the nearest tenth of an inch
  - Find  $BC$  to the nearest tenth of an inch
  - Find the area of the rectangle to the nearest square inch