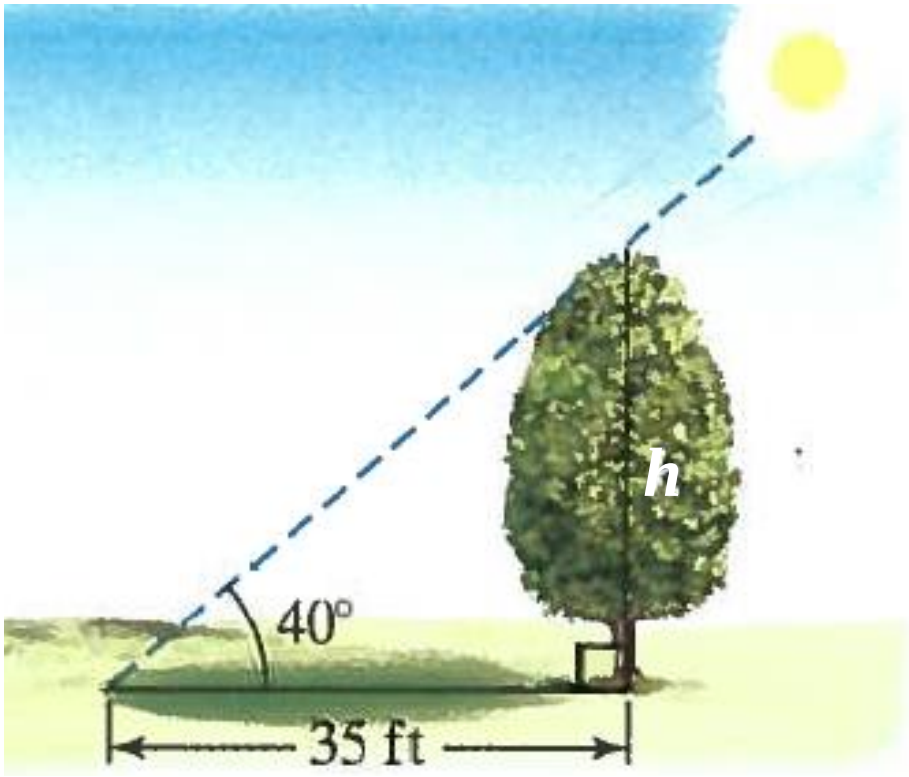
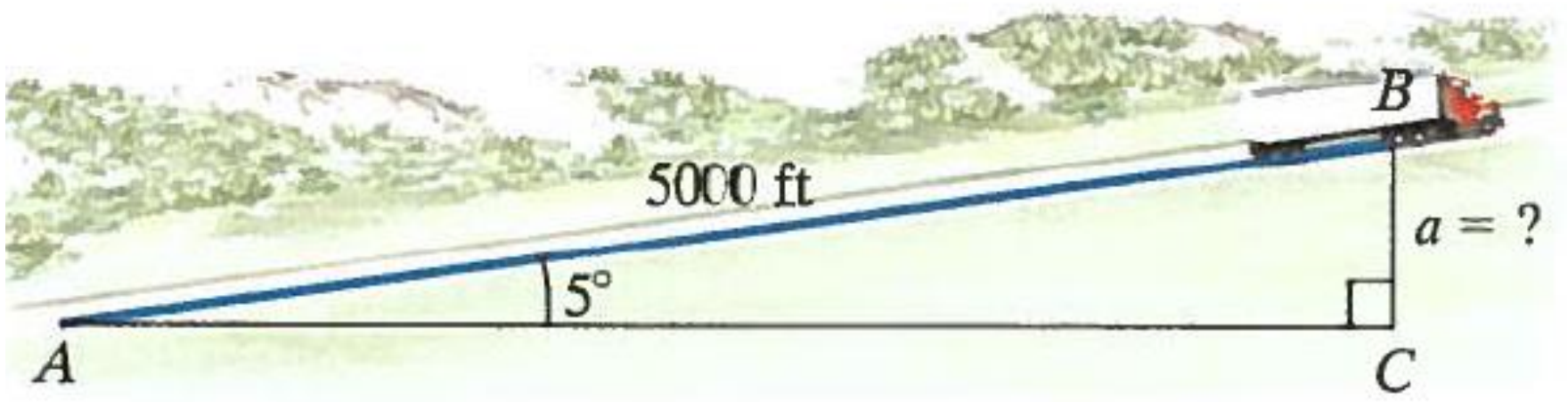
Applications of Right Triangle Trigonometry:

1. At a certain time of day, the angle of elevation of the Sun is $40°$. To the nearest foot, find the height of a tree whose shadow is 35 ft. long.

$\tan 40° = \frac{\quad}{\quad}$



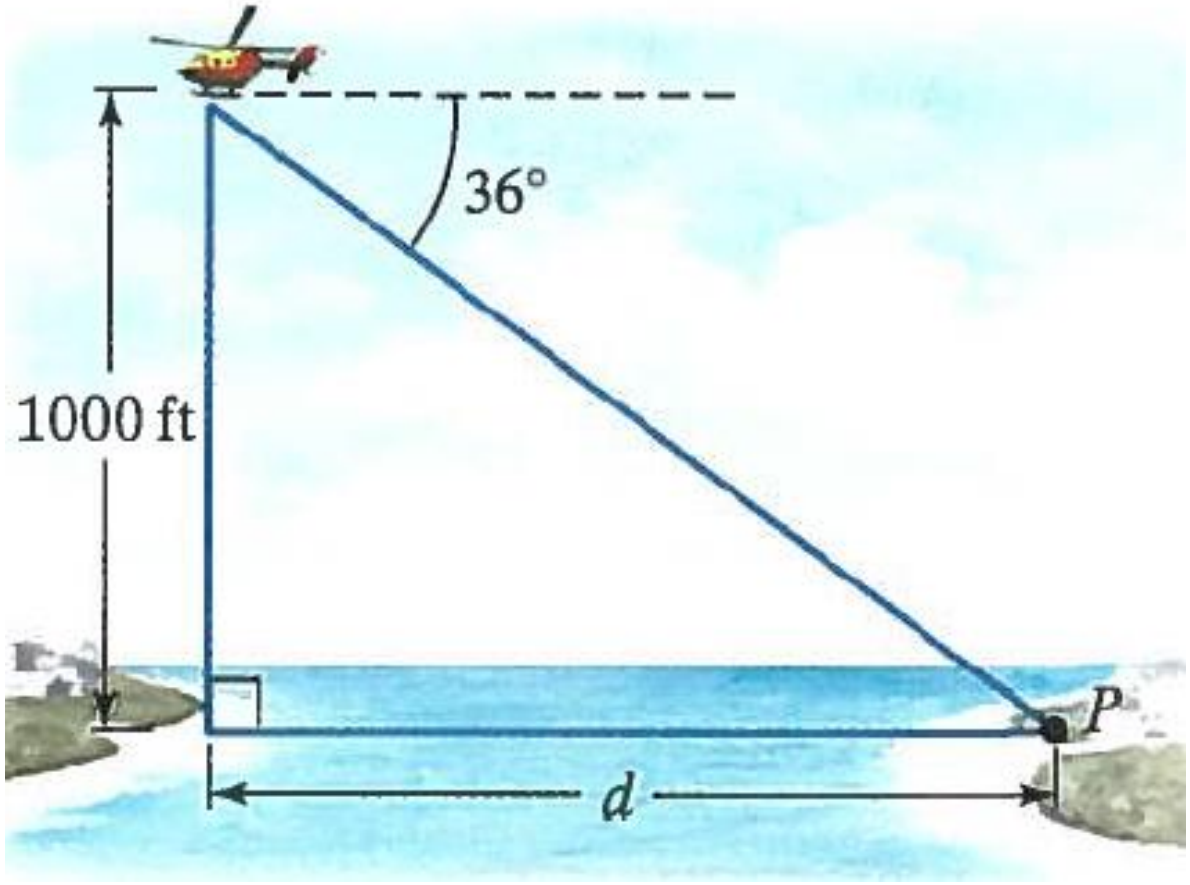
2. A road is inclined at an angle of $5°$. After driving 5,000 feet along this road, find the driver's increase in altitude to the nearest tenth of a foot.



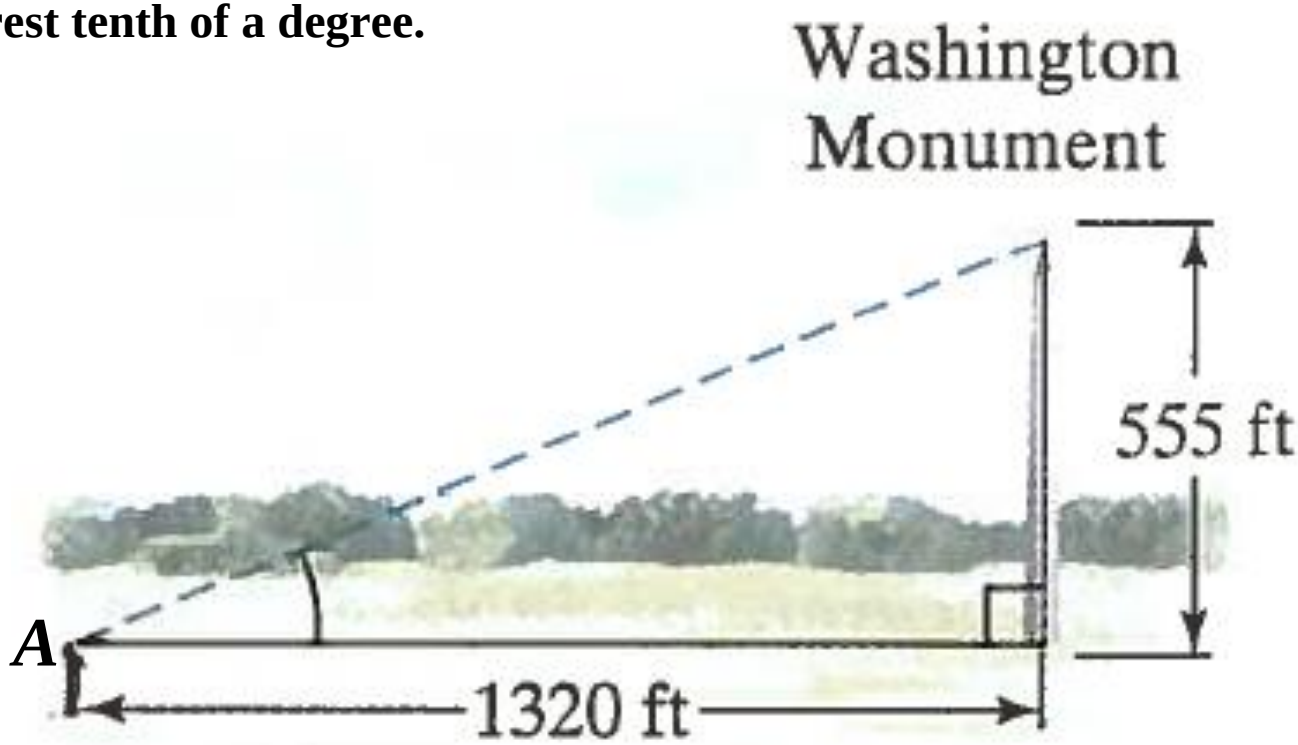
$\sin 5° =$ ————

3. A helicopter hovers 1,000 feet above a small island. The figure indicates that the angle of depression from the helicopter to point *P* is $36°$. How far off the coast, to the nearest foot, is the island?

$$\tan(\quad °) = \frac{d}{1000}$$



4. The Washington Monument is 555 feet high. If you stand one quarter of a mile, or 1320 feet, from the base of the monument and look to the top, find the angle of elevation, *A*, to the nearest tenth of a degree.



$\angle A = \tan^{-1} \frac{\qquad}{\qquad} =$

5. From a point on level ground 90 feet from the base of a building, the angle of elevation to the top of the building is $38.7°$**. Find the distance from the point on the ground to the top of the building to the nearest foot.**