

Name: _____

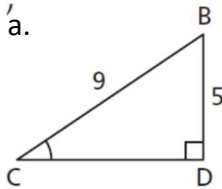
Date: _____

Learning Goal 2.2

Using trigonometric ratios and solving simple trigonometric equations.

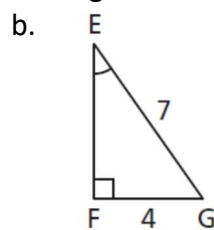
Assignment

1. Determine the measure of each angle to the nearest degree.



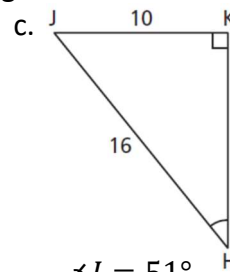
$$\angle C = 34^\circ$$

$$\angle B = 56^\circ$$



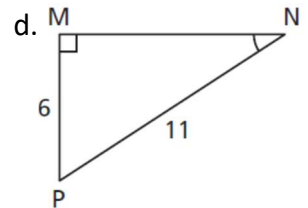
$$\angle E = 35^\circ$$

$$\angle G = 55^\circ$$



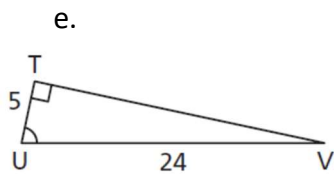
$$\angle J = 51^\circ$$

$$\angle H = 39^\circ$$



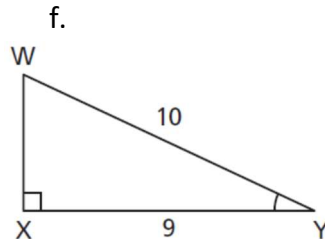
$$\angle N = 33^\circ$$

$$\angle P = 57^\circ$$



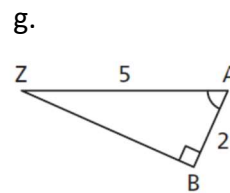
$$\angle U = 78^\circ$$

$$\angle V = 12^\circ$$



$$\angle W = 64^\circ$$

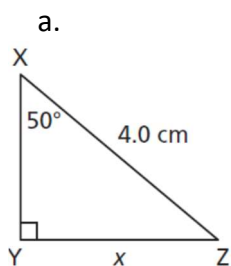
$$\angle Y = 26^\circ$$



$$\angle A = 66^\circ$$

$$\angle Z = 24^\circ$$

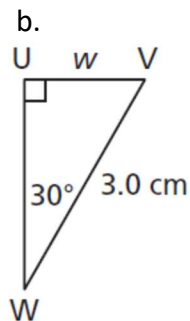
2. Solve each of the following triangles.



$$\angle Z = 40^\circ$$

$$x = 3.0 \text{ cm}$$

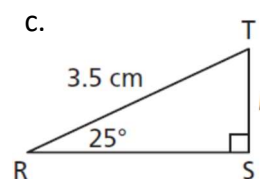
$$z = 2.6 \text{ cm}$$



$$\angle V = 60^\circ$$

$$w = 1.5 \text{ cm}$$

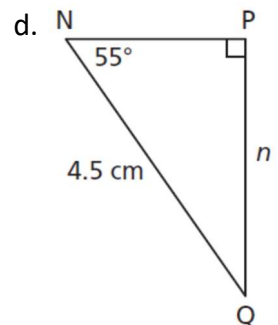
$$v = 2.6 \text{ cm}$$



$$\angle T = 65^\circ$$

$$r = 1.5 \text{ cm}$$

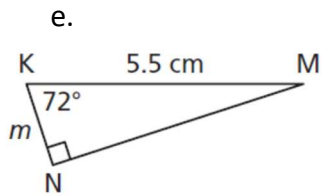
$$t = 3.2 \text{ cm}$$



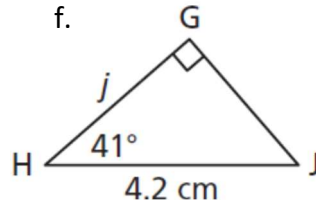
$$\angle Q = 35^\circ$$

$$n = 3.7 \text{ cm}$$

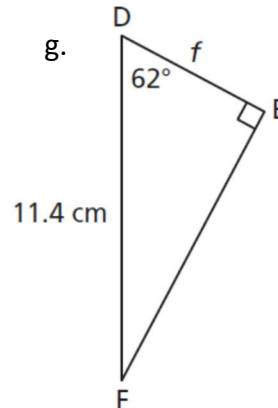
$$q = 2.6 \text{ cm}$$



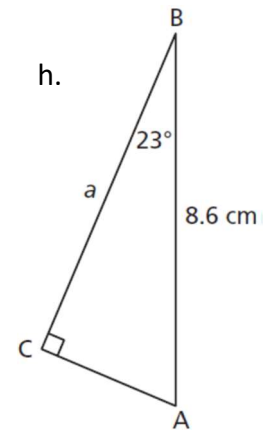
$$\begin{aligned}\angle M &= 18^\circ \\ m &= 5.2 \text{ cm} \\ k &= 1.8 \text{ cm}\end{aligned}$$



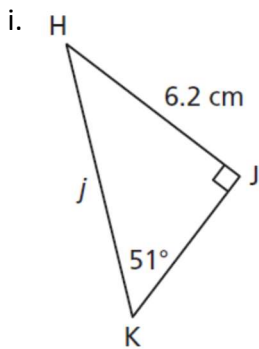
$$\begin{aligned}\angle J &= 49^\circ \\ j &= 3.1 \text{ cm} \\ h &= 2.8 \text{ cm}\end{aligned}$$



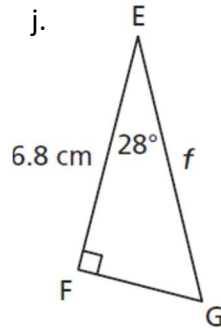
$$\begin{aligned}\angle F &= 28^\circ \\ f &= 5.3 \text{ cm} \\ d &= 10.1 \text{ cm}\end{aligned}$$



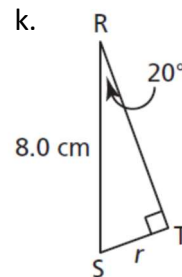
$$\begin{aligned}\angle A &= 67^\circ \\ a &= 7.9 \text{ cm} \\ b &= 3.4 \text{ cm}\end{aligned}$$



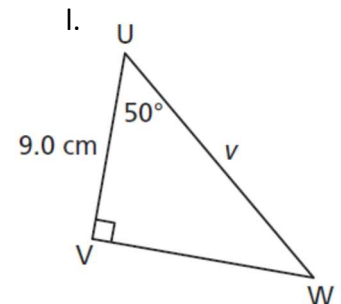
$$\begin{aligned}\angle H &= 39^\circ \\ h &= 5.0 \text{ cm} \\ j &= 8.0 \text{ cm}\end{aligned}$$



$$\begin{aligned}\angle G &= 62^\circ \\ f &= 7.7 \text{ cm} \\ e &= 3.6 \text{ cm}\end{aligned}$$



$$\begin{aligned}\angle S &= 70^\circ \\ s &= 7.5 \text{ cm} \\ r &= 2.8 \text{ cm}\end{aligned}$$



$$\begin{aligned}\angle W &= 40^\circ \\ u &= 10.7 \text{ cm} \\ v &= 14.0 \text{ cm}\end{aligned}$$

3. A bookcase is built against the sloping ceiling of an attic. The base of the bookcase is 3.24 m long. The angle of inclination of the attic ceiling is 40° .
 - a. What is the maximum height of the bookshelf? 2.72 m
 - b. What is the greatest length of the top of the bookcase, measured along the attic ceiling? 4.23 m
4. A factory manager plans to install a 30 foot long conveyor that rises 7 feet from the road to a loading dock. What is the angle of inclination of the conveyor to the nearest degree? 13°
5. A ship is sailing off the south coast of Haida Gwaii. At a certain point, the navigator sees the beacon at Cape St. James, due north of the ship. The ship then sails 2.4 km due west. The angle between the ship's path and the line of sight to the beacon is 41.5° . How far is the ship from the beacon? 32.0 km