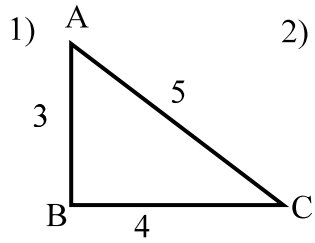


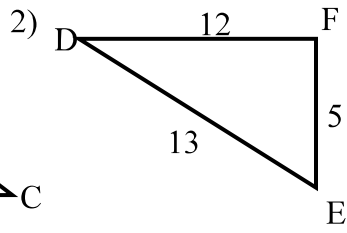
Trigonometry 1
Geometry

Give the six trigonometric ratios for the followings triangles.



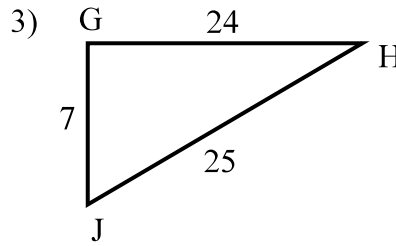
$$\frac{3}{4}, \frac{3}{5}, \frac{4}{5},$$

$$\frac{4}{5}, \frac{5}{3}, \frac{5}{4}$$



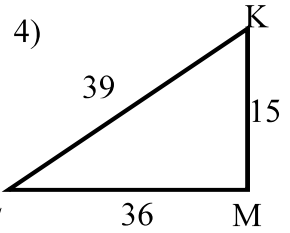
$$\frac{5}{12}, \frac{5}{13}, \frac{12}{13},$$

$$\frac{12}{13}, \frac{13}{5}, \frac{13}{12}$$



$$\frac{7}{24}, \frac{7}{25}, \frac{24}{25},$$

$$\frac{24}{25}, \frac{25}{7}, \frac{25}{24}$$



$$\frac{15}{36}, \frac{15}{39}, \frac{36}{39},$$

$$\frac{36}{39}, \frac{39}{15}, \frac{39}{36}$$

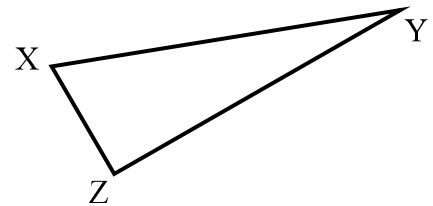
Use ΔXYZ to name the hypotenuse, opposite side, and adjacent side for each reference angle.

5) $\angle X$

Hypotenuse: \overline{XY}
Opposite: \overline{ZY}
Adjacent: \overline{XZ}

6) $\angle Y$

Hypotenuse: \overline{XY}
Opposite: \overline{XZ}
Adjacent: \overline{ZY}



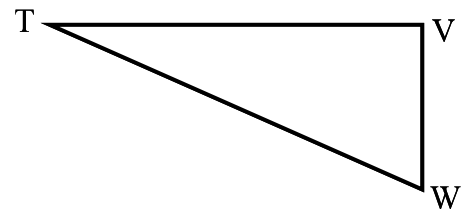
Use ΔTVW to name the hypotenuse, opposite side, and adjacent side for each reference angle.

7) $\angle T$

Hypotenuse: \overline{WT}
Opposite: \overline{VW}
Adjacent: \overline{TV}

8) $\angle W$

Hypotenuse: \overline{WT}
Opposite: \overline{TV}
Adjacent: \overline{VW}



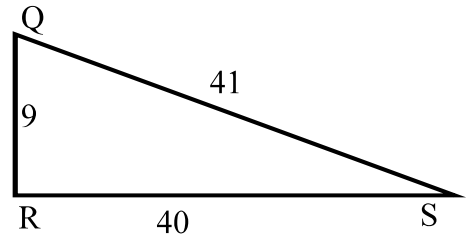
Use $\triangle QRS$ to find each trigonometric ratio. Then use a calculator to approximate each ratio to four decimal places.

$$9) \frac{\text{Opposite} \angle Q}{\text{Hypotenuse}} = \frac{40}{41}$$

$$10) \frac{\text{Adjacent} \angle S}{\text{Opposite} \angle S} = \frac{40}{9}$$

$$11) \frac{\text{Hypotenuse}}{\text{Adjacent} \angle S} = \frac{41}{40}$$

$$12) \frac{\text{Opposite} \angle R}{\text{Adjacent} \angle R} = \text{Not Possible}$$



In the figure at the right the ratio $\frac{\text{Opposite} \angle A}{\text{Adjacent} \angle A} = \frac{8}{15}$.

13) If $BC = 16$, find lengths AB and AC .

$$AB = 30$$

$$AC = 34$$

14) If $AB = 75$, find lengths BC and AC .

$$BC = 40$$

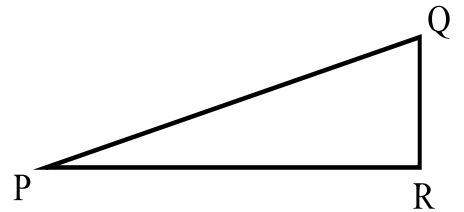
$$AC = 85$$

In the figure at the right the ratio $\frac{\text{Opposite} \angle P}{\text{Hypotenuse}} = \frac{12}{37}$.

15) If $PR = 105$, find lengths PQ and QR .

$$PQ = 111$$

$$QR = 36$$



16) If $PQ = 185$, find lengths PR and QR .

$$PR = 175$$

$$QR = 60$$