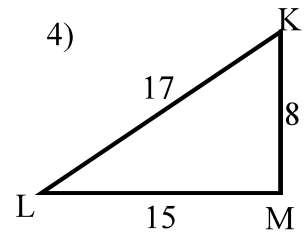
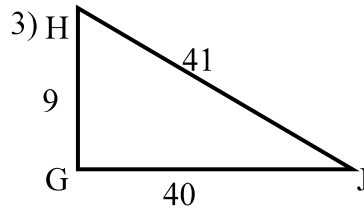
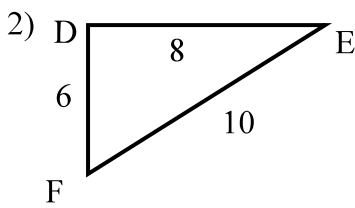
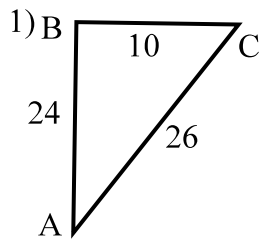


Trigonometry 2 KEY

Geometry

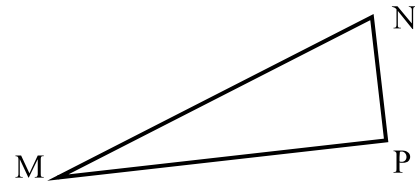
Give the six trigonometric ratios for the followings triangles.



Use  $\triangle MNP$  to name the hypotenuse, opposite side, and adjacent side for each reference angle.

5)  $\angle N$  Hyp -  $\overline{MN}$   
Opp -  $\overline{MP}$   
Adj -  $\overline{NP}$

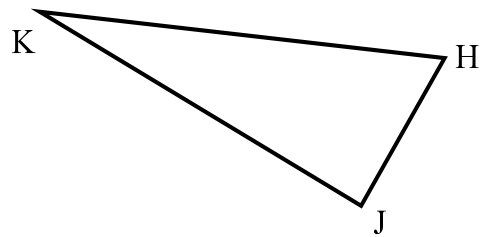
6)  $\angle M$



Use  $\triangle JKH$  to name the hypotenuse, opposite side, and adjacent side for each reference angle.

7)  $\angle K$  Hyp -  $\overline{KH}$   
Opp -  $\overline{HJ}$   
Adj -  $\overline{KJ}$

8)  $\angle H$



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

9)  $\frac{\text{Opposite } \angle S}{\text{Hypotenuse}} =$

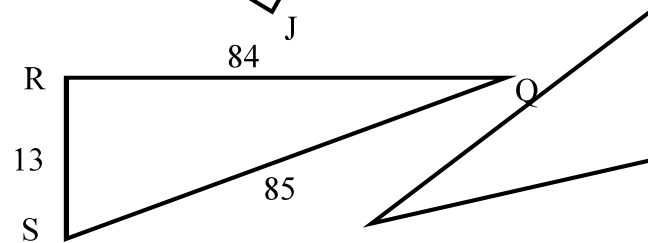
10)  $\frac{\text{Adjacent } \angle S}{\text{Opposite } \angle S} =$

$\frac{84}{85} = .9882$

$\frac{13}{84} = .1548$

11)  $\frac{\text{Hypotenuse}}{\text{Adjacent } \angle Q} =$

12)  $\frac{\text{Opposite } \angle Q}{\text{Adjacent } \angle Q} =$



In the figure at the right the ratio  $\frac{\text{Hypotenuse}}{\text{Adjacent } \angle A} = \frac{25}{24}$ .

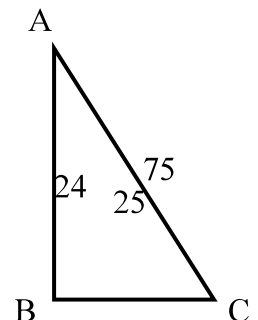
13) If  $AC = 75$ , find lengths  $AB$  and  $BC$ .

$\frac{25}{24} = \frac{75}{x}$ ,  $75/25 = 3$ . This is a 3 sets problem.

So  $x = 3(24) = 72 = AB$

$a^2 + 72^2 = 75^2$

$a = 21 = BC$



In the figure at the right the ratio  $\frac{\text{Hypotenuse}}{\text{Adjacent}\angle A} = \frac{25}{24}$ .

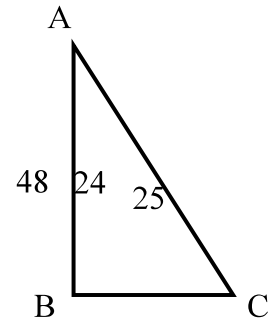
14) If  $AB = 48$ , find lengths  $BC$  and  $AC$ .

$$\frac{25}{24} = \frac{x}{48}, 48/24 = 2. \text{ This is a 2 sets problem.}$$

$$\text{So } x = 2(25) = \boxed{50 = AB}$$

$$a^2 + 48^2 = 50^2$$

$$a = \boxed{14 = BC}$$



In the figure at the right the ratio  $\frac{\text{Opposite}\angle P}{\text{Hypotenuse}} = \frac{5}{13}$ .

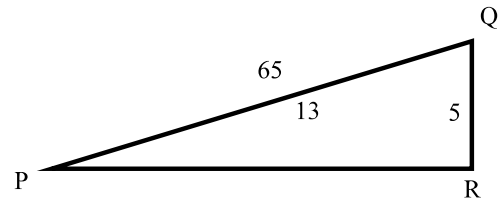
15) If  $PQ = 65$ , find lengths  $PR$  and  $QR$ .

$$\frac{5}{13} = \frac{x}{65}, 65/13 = 5. \text{ This is a 5 sets problem.}$$

$$\text{So } x = 5(5) = \boxed{25 = QR.}$$

$$a^2 + 25^2 = 65^2$$

$$a = \boxed{60 = PR}$$



In the figure at the right the ratio  $\frac{\text{Opposite}\angle P}{\text{Hypotenuse}} = \frac{5}{13}$ .

16) If  $PR = 72$ , find lengths  $PQ$  and  $QR$ .

$$a^2 + 5^2 = 13^2$$

$$a = 12 = \text{ratio value for PR}$$

$$\frac{5}{12} = \frac{x}{72}, 72/12 = 6. \text{ This is a 6 sets problem.}$$

$$\text{So } x = 6(5) = \boxed{30 = QR.}$$

$$\frac{12}{13} = \frac{72}{x}, 72/12 = 6. \text{ This is a 6 sets problem.}$$

$$\text{So } x = 6(13) = \boxed{78 = PQ.}$$

