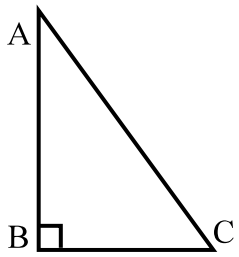
Trigonometry 3 KEY

Find the trigonometric ratios using the information given. Use the figure at the right.



1) Sin A = 3/5 Cos C = 3/5=.6000 Tan A =3/4=.7500

$3^2 + b^2 = 5^2$
b = 4

2) Tan A = 20/21 Sin A = 20/29 = .6867 Tan C = 21/20 = 1.0500

$20^2 + 21^2 = c^2$, c = 29

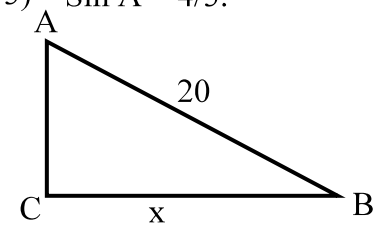
3) Tan C = 15/8 Tan A = 8/15= .5333 Sin A = 8/17 = .4706

4) Sin C = 35/37 Cos A = 35/37 = .9459 Cos C = 12/37 = .3243

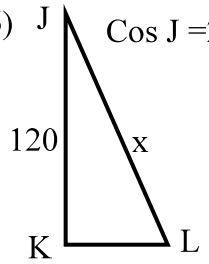
$a^2 + 35^2 = 37^2$
a = 12

Use a proportion or an equation to find x in each problem below. Round each length to the tenth.

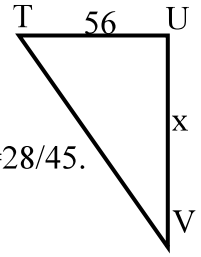
5) Sin A = 4/5.



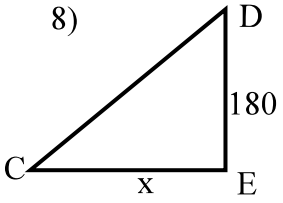
6) Cos J =24/25.



7) Tan V=28/45.



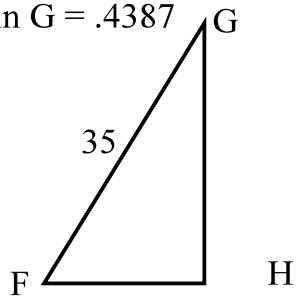
8) Tan D =21/20.



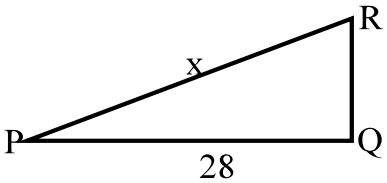
Sin A= $\frac{x}{20}$, so $\frac{4}{5} = \frac{x}{20}$ Cos J = $\frac{120}{x}$, so $\frac{24}{25} = \frac{120}{x}$ Tan V = $\frac{56}{x}$, x = 189

and x = 16 and x = 125 So x = 90

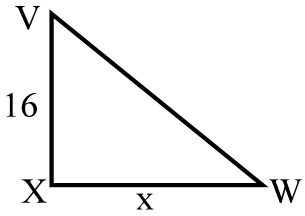
9) Sin G = .4387



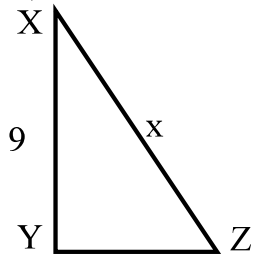
10) Sin R = .9724



11) Tan V = 1.1482



12) Cos X = .7732

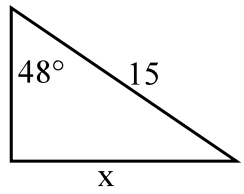


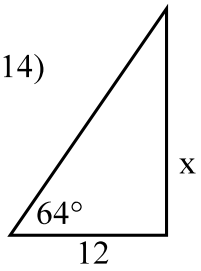
Sin G = x/35 so, .4387 = x/35 and x = 15.4

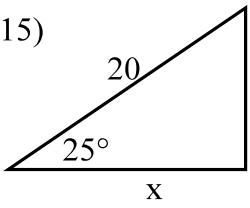
Sin R = 28/x so, .9724 = 28/x and x = 28/.9724 = 28.8

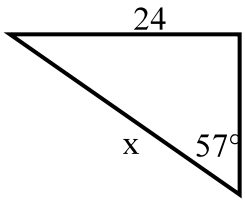
Tan V = x/16 1.1482 = x/16 x = 18.4

x = 11.6

13) 

14) 

15) 

16) 

Sin 48° = $\frac{x}{15}$, Tan 64° = $\frac{x}{12}$, Cos 25° = x/20 x = 28.6

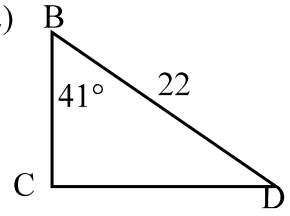
since Sin 48° = .7431, since Tan 64° = 2.0503, so x = 18.1

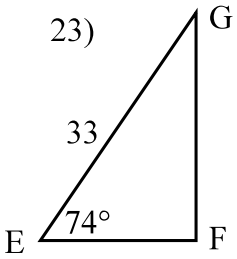
$\frac{x}{20}$ = .7431, so x = 14.7 $\frac{x}{12}$ = 2.0530, so x = 24.6

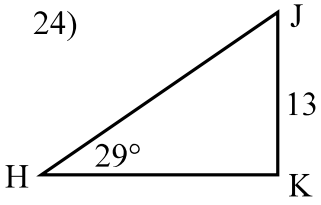
Give each trigonometric ratio to 4 places.

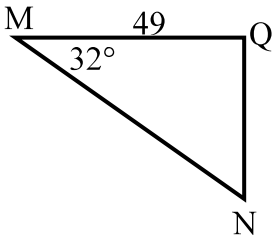
17) Tan 26^0= .4877 18) Cos 71^0= .3256 19) Tan 82^0= 7.1154 20) Sin 43^0=.6820 21) Tan 67^0=2.3559

Solve each triangle. Give the measure of each side and angle to the nearest tenth.

22) 

23) 

24) 

25) 

90^O - 41^O= 49^O = D 90^O - 74^O = 16^O = G 90^O - 29^O = 61^O = J N = 58^O

Cos 41^O= BC/22 Cos 74^O = EF/33, so Tan 29^O = 13/HK

Cos 41^O =.7547 = BC/22 .2756 = EF/33 .5543 = 13/HK

BC=(.7547)(22)= 16.6 EF = (.2756)(33)= 9.1 HK = 13/.5543 = 23.45 QN = 30.6

Sin 41^O = CD/22 Sin 74^O = GF/33 Sin 29^O = 13/HJ

.6561 = CD/22 .9613 = GF/33 .4848 = 13/HJ

CD = (.6561)(22) = 14.4 GF = (.913)(33) HJ = 13/.4848 = 26.8 MN = 57.8