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
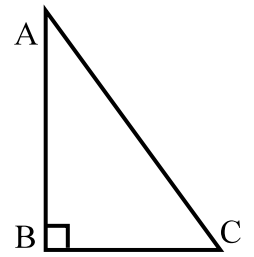
4) Sin C = 35/37   Cos A = 35/37 = .9459   Cos C = 12/37 = .3243
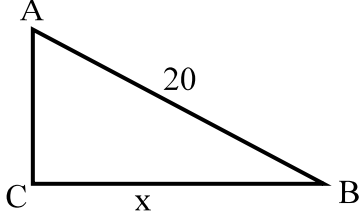
$a^2 + 35^2 = 37^2$
a = 12

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

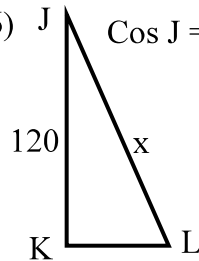5) Sin A = 4/5.

6) Cos J =24/25.

7) Tan V=28/45.

8) Tan D =21/20.

$Sin A = \dfrac{x}{20}$, so $\dfrac{4}{5} = \dfrac{x}{20}$

$Cos J = \dfrac{120}{x}$, so $\dfrac{24}{25} = \dfrac{120}{x}$

$Tan V = \dfrac{56}{x}$,

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
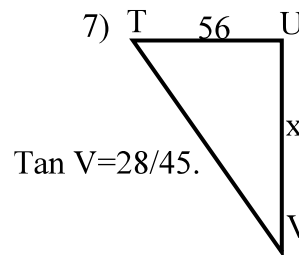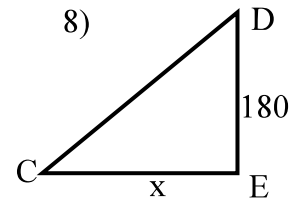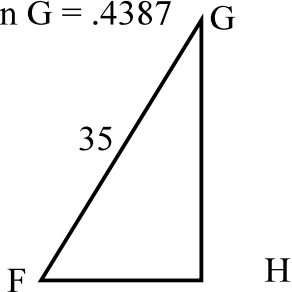
Sin G = x/35 so,
.4387 = x/35 and
x = 15.4
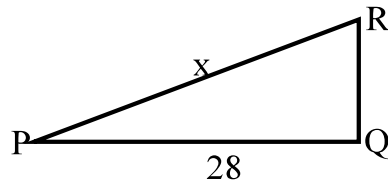
Sin R = 28/x so,
.9724 = 28/x and
x = 28/.9724 = 28.8
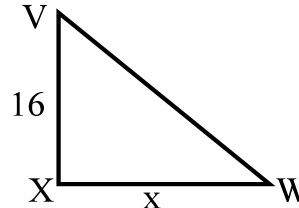
Tan V = x/16
1.1482 = x/16
x = 18.4
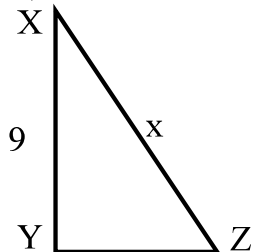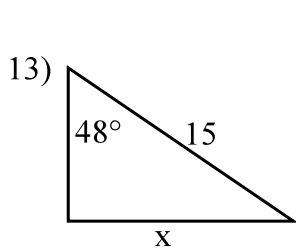
x = 11.6

13)

48°   15

x

$\text{Sin } 48° = \dfrac{x}{15}$,

since Sin 48° = .7431,

$\dfrac{x}{20} = .7431$, so x = 14.7

14)

64°

12

x

$\text{Tan } 64° = \dfrac{x}{12}$,

since Tan 64° = 2.0503,

$\dfrac{x}{12} = 2.0530$, so x = 24.6

15)

20

25°

x

Cos 25° = x/20

so x = 18.1

16)

24

x   57°
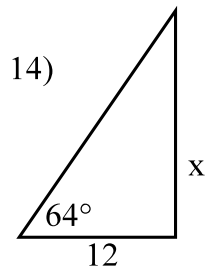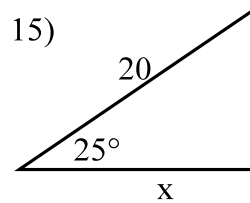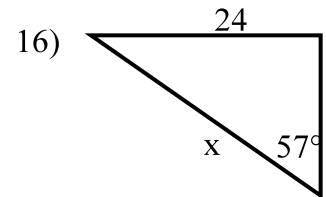
x = 28.6

Give each trigonometric ratio to 4 places.
17) Tan 26⁰= .4877   18) Cos 71⁰= .3256   19) Tan 82⁰= 7.1154   20) Sin 43⁰=.6820   21) Tan 67⁰=2.3559

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

22) B

41°   22

C   D

90⁰ - 41⁰= 49⁰ = D
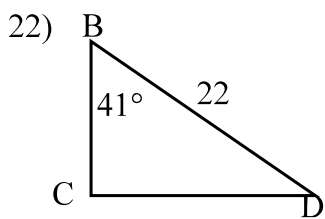
Cos 41⁰= BC/22
Cos 41⁰ =.7547 = BC/22
BC=(.7547)(22)= 16.6

Sin 41⁰ = CD/22
.6561 = CD/22
CD = (.6561)(22) = 14.4

23)   G

33

74°

E   F

90⁰ - 74⁰ = 16⁰ = G
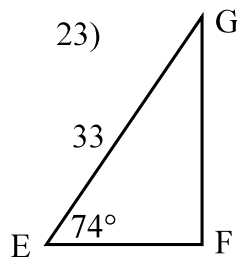
Cos 74⁰ = EF/33, so
.2756 = EF/33
EF = (.2756)(33)= 9.1

Sin 74⁰ = GF/33
.9613 = GF/33
GF = (.913)(33)

24)   J

13

29°

H   K

90⁰ - 29⁰ = 61⁰ = J
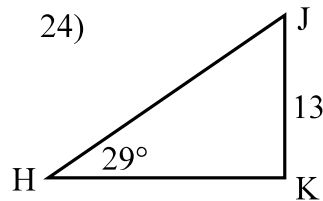
Tan 29⁰ = 13/HK
.5543 = 13/HK
HK = 13/.5543 = 23.45

Sin 29⁰ = 13/HJ
.4848 = 13/HJ
HJ = 13/.4848 = 26.8

25) M   49   Q

32°

N

N = 58⁰

QN = 30.6

MN = 57.8