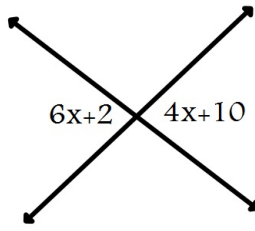


Spiral Review:

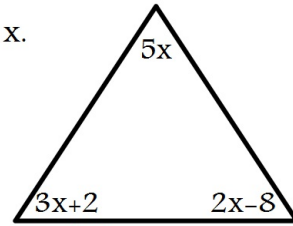
1. Solve for x.



$$x=4$$

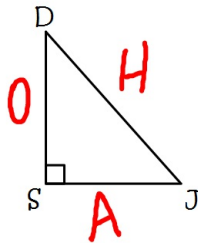
$$\begin{array}{r} 6x+2=4x+10 \\ -2 \quad -2 \\ \hline 6x=4x+8 \\ -4x \quad -4x \\ \hline 2x=8 \\ \frac{2x}{2}=\frac{8}{2} \end{array}$$

2. Solve for x.



$$\begin{array}{r} 3x+2+5x+2x-8=180 \\ 10x-6=180 \\ +6 \quad +6 \\ \hline 10x=186 \\ \frac{10x}{10}=\frac{186}{10} \end{array} \quad x=18.6$$

3. Given $\triangle J$, label sides as "O", "A", and "H".



4. Find the slope that is: (8, 2) (-5, 1)

a) parallel to: $\frac{1}{13}$

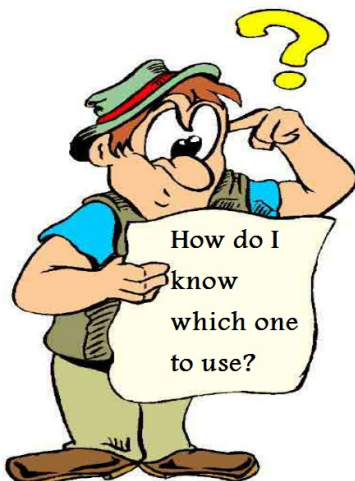
b) perpendicular to: $-\frac{13}{1}$

$$m = \frac{2-1}{8-(-5)} = \frac{1}{13}$$

p.568 8.4 Trigonometry

We are going to use three trigonometric ratios with our right triangles:

Sine (sin), cosine (cos), & tangent (tan)



$$\frac{\sin A}{\sin A} = \frac{\text{opposite side}}{\text{hypotenuse}}$$

$$\frac{\cos B}{\cos B} = \frac{\text{adjacent side}}{\text{hypotenuse}}$$

$$\frac{\tan C}{\tan C} = \frac{\text{opposite side}}{\text{adjacent side}}$$

I still can't remember when to do what...

Remember:

S O H C A H T O A



Example 1: Express each ratio as a fraction and as a decimal to nearest hundredth (2 decimal places).

a) $\sin L \quad \frac{O}{H} = \frac{12}{37} \quad .32$

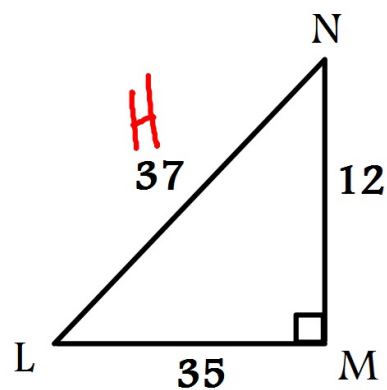
b) $\cos L \quad \frac{A}{H} = \frac{35}{37} \quad .95$

c) $\tan L \quad \frac{O}{A} = \frac{12}{35} \quad .34$

d) $\sin N \quad \frac{O}{H} = \frac{35}{37} \quad .95$

e) $\cos N \quad \frac{A}{H} = \frac{12}{37} \quad .32$

f) $\tan N \quad \frac{O}{A} = \frac{35}{12} \quad 2.92$



Example 2: Evaluate the following with your calculator.

Round to the nearest ten-thousandth (4 decimal places).

a) $\sin 32^\circ$ $\boxed{\sin}(32) = .5299$

b) $\cos 41^\circ$ $.7547$

c) $\tan 87^\circ$ 19.0811

d) $\cos 12^\circ$ $.9781$

e) $\sin 65^\circ$ $.9063$

f) $\tan 38^\circ$ $.7813$

Example 3: Use the calculator to find the indicated angles.

Round to the nearest degree.

a) $\sin A = .267$ $\boxed{2nd} \boxed{\sin} (.267) = \boxed{15^\circ}$

b) $\cos^{-1}.548$ $\boxed{2nd} \boxed{\cos} (.548) = \boxed{57^\circ}$

c) $\tan B = .8132$ 39°

d) $\sin^{-1}(1/2)$ 30°

e) $\cos G = .925$ 22°

f) $\tan^{-1}.584$ 30°

Example 4. Solve for x.

1) Circle angle given.

2) Label the 2 sides given as "O", "A", or "H".

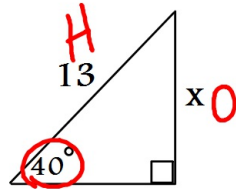
3) Choose sine, cosine, or tangent.

4) trig angle = side / side

5) solve using calculator

side
angle (2nd)

a)



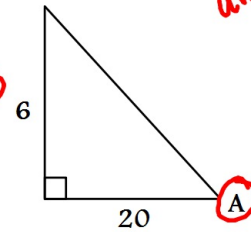
$$\sin 40^\circ = \frac{x}{13}$$

$$13 \sin 40^\circ = x$$

$$13 \sin(40) = x$$

$$x = 8.4$$

b)

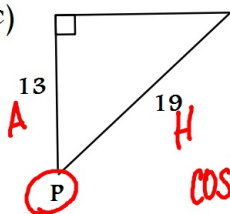


$$\tan A = \frac{6}{20}$$

$$\text{2nd} / \tan (6 \div 20)$$

$$m\angle A = 16.7^\circ$$

c)

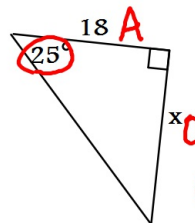


$$\cos P = \frac{13}{19}$$

$$\text{2nd} / \cos (13 \div 19)$$

$$m\angle P = 46.8^\circ$$

d)



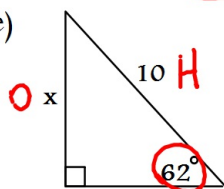
$$\tan 25^\circ = \frac{x}{18}$$

$$18 \tan 25^\circ = x$$

$$18 / \tan(25) =$$

$$x = 8.4$$

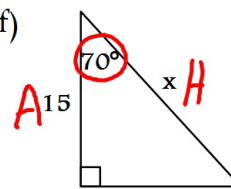
e)



$$\sin 62^\circ = \frac{x}{10}$$

$$x = 8.8$$

f)



$$\cos 70^\circ = \frac{15}{x}$$

$$\frac{x \cos 70^\circ}{\cos 70^\circ} = \frac{15}{\cos 70^\circ}$$

$$x = 15 \div \cos(70)$$

$$x = 43.9$$

Turn-in:
Quick Check 8.4

HW:

p. 573 (16, 18, 28-33, 36- 44 evens)