Station 1

Directions: Find the correct ratio. Write your answer as a simplified FRACTION.

1. Sin A = $\frac{18}{22} = \boxed{\frac{9}{11}}$

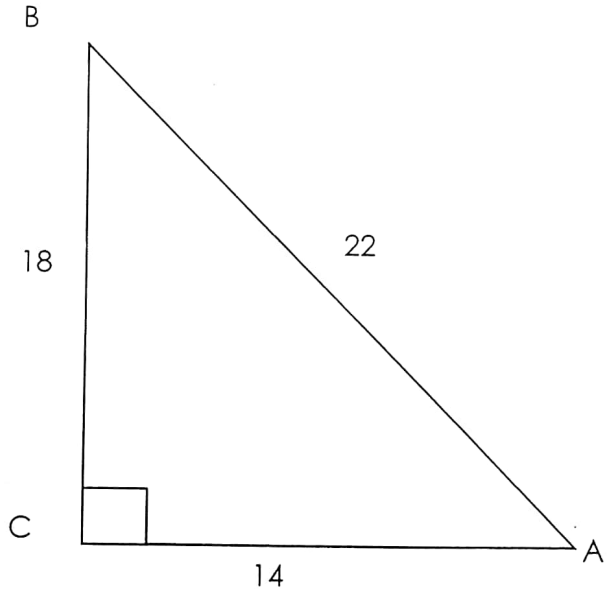
2. Cos A = $\frac{14}{22} = \boxed{\frac{7}{11}}$

3. Cos B = $\frac{18}{22} = \boxed{\frac{9}{11}}$

4. Tan B = $\frac{14}{18} = \boxed{\frac{7}{9}}$

5. Tan A = $\frac{18}{14} = \boxed{\frac{9}{7}}$

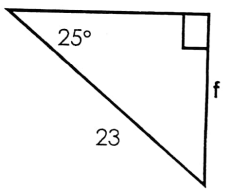
6. Sin B = $\frac{14}{22} = \boxed{\frac{7}{11}}$



Station 3

Directions: Find the indicated values. Round your answer the nearest TENTH.

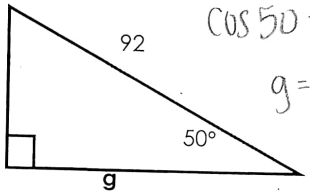
1. f = 9.7



$\sin 25 = \frac{f}{23}$

$f = 9.7$

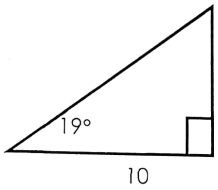
2. g = 59.1



$\cos 50 = \frac{g}{92}$

$g = 59.1$

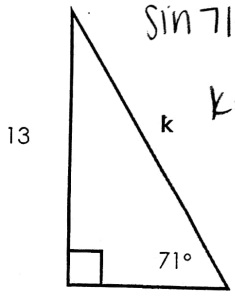
3. h = 3.4



$\tan 19 = \frac{h}{10}$

$h = 3.4$

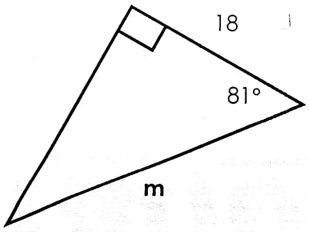
4. k = 13.7



$\sin 71 = \frac{13}{k}$

$k = 13.7$

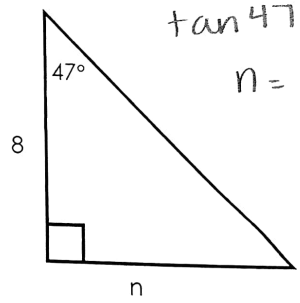
5. m = 115.1



$\cos 81 = \frac{18}{m}$

$m = 115.1$

6. n = 8.6



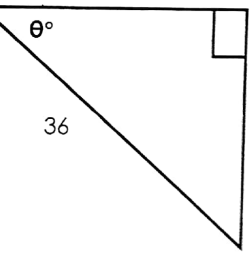
$\tan 47 = \frac{n}{8}$

$n = 8.6$

Station 4

ections: Solve for the indicated measures. Round your answers to nearest TENTH.

1. θ = 28.2°

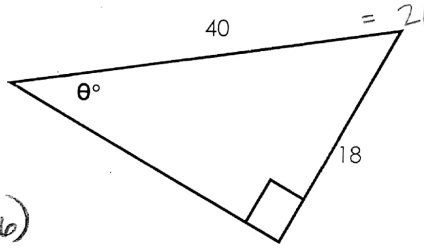


$\sin\theta = \frac{17}{36}$

$\theta = \sin^{-1}(17/36)$

$\theta = 28.2°$

2. θ = 26.7°

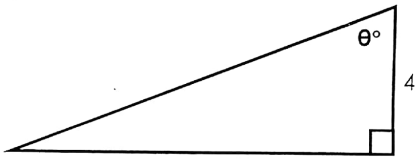


$\sin\theta = 18/40$

$\theta = \sin^{-1}(18/40)$

$= 26.7°$

3. θ = 87.3°

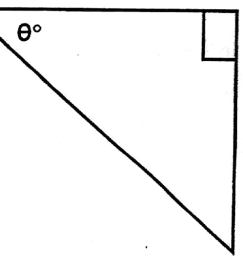


$\tan\theta = 85/4$

$\theta = \tan^{-1}(85/4)$

$= 87.3°$

4. θ = 48°

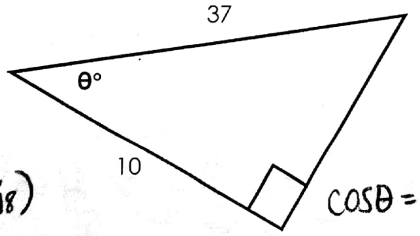


$\tan\theta = \frac{20}{18}$

$\theta = \tan^{-1}(20/18)$

$= 48°$

5. θ = 74.3°

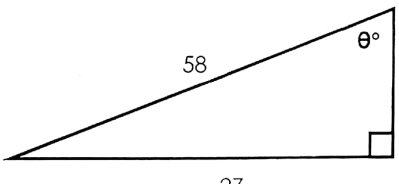


$\cos\theta = \frac{10}{37}$

$\theta = \cos^{-1}(10/37)$

$= 74.3°$

6. θ = 27.7°



$\sin\theta = 27/58$

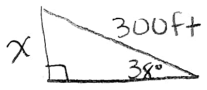
$\theta = \sin^{-1}(27/58)$

$= 27.7°$

Station 5

Directions: Solve the following word problems. Round your answer to the nearest HUNDREDTH.

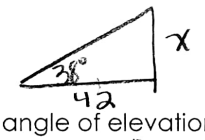
1. A boy flying a kite lets out 300 feet of string which makes an angle of 38° with the ground. Assuming the string is straight, how high above the ground is the kite?



$\sin 38 = \frac{x}{300}$

$x = 184.7 ft$

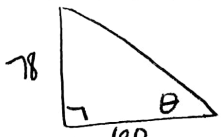
2. A tree casts a shadow that is 42 feet long. The angle of elevation to the top of the tree is 38°. How tall is the tree?



$\tan 38 = \frac{x}{42}$

$x = 32.81 ft$

3. A radio tower is 78 feet tall. Find the angle of elevation to the top of the tower at a point on level ground 60 feet from its base.

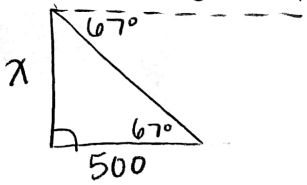


$\tan\theta = 78/60$

$\theta = \tan^{-1}(78/60)$

$\theta = 52.43°$

4. The base of a lighthouse that is 500 feet away from a buoy in the ocean has a 67° angle of depression from the top of the lighthouse to the buoy. How tall is the lighthouse?



$\tan 67 = \frac{x}{500}$

$x = 1177.93 ft$

Station 6

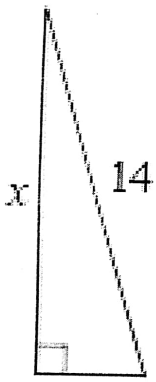
Directions: Find the missing side of the triangle. Then find the perimeter & the area. Leave al answers in simplified radical form!

1. x = $6\sqrt{5}$ m P = $(18+6\sqrt{5})$ m

   A = $12\sqrt{5}$ m^2

2. x = $3\sqrt{13}$ mi P = $(15+3\sqrt{13})$ mi

   A = 27 mi^2



$x^2+16=196$

$\sqrt{x^2}=\sqrt{180}$

$36 \cdot 5$

$6 \cdot 6$

$x=6\sqrt{5}$

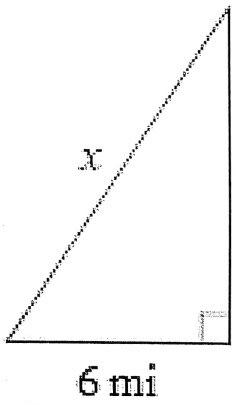
$P=14+4+6\sqrt{5}$

$=18+6\sqrt{5}$

$A=\frac{1}{2}bh$

$=\frac{1}{2}(4)(6\sqrt{5})$

$=12\sqrt{5}$



$81+36=x^2$

$\sqrt{117}=\sqrt{x^2}$

$9 \cdot 13$

$3 \cdot 3$

$x=3\sqrt{13}$

$P=9+6+3\sqrt{13}$

$=15+3\sqrt{13}$

$A=\frac{1}{2}bh$

$=\frac{1}{2}(6)(9)$

$=27$ mi^2

Station 7

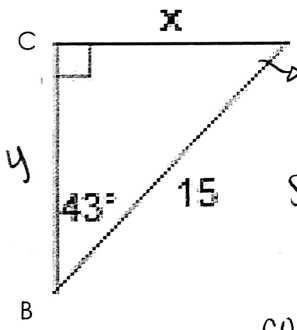
Directions: Solve the right triangles completely. Round all answers to the nearest HUNDREDTH.

1. m<A = 47° BC = 10.97

   AC = 10.23

2. m<Q = 51.61° m<S = 38.39°

   QR = 22.98



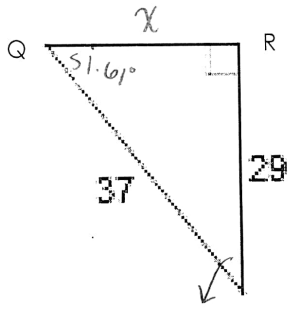
180-90-43 = 47°

$\sin 43 = \frac{x}{15}$

$x = 10.23$

$\cos 43 = \frac{y}{15}$

$y = 10.97$



180 - 90 - 51.61 = 38.39

$x^2 + 841 = 1369$

$\sqrt{x^2} = \sqrt{528}$

16 33

44

$= 4\sqrt{33}$ or 22.98

$\sin Q = 29/37$

$Q = \sin^{-1}(29/37)$

$= 51.61°$