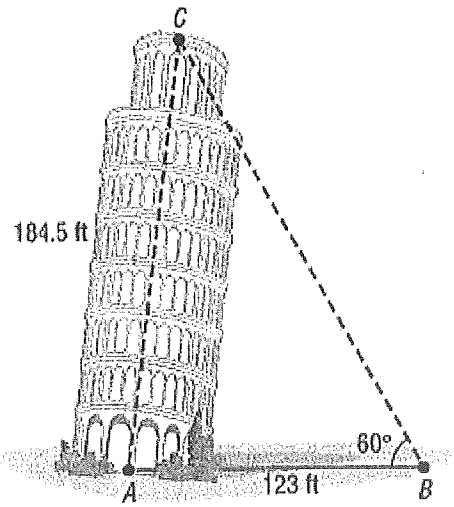
Name: _____ Hour: _____

Law of Sines Solving for a Triangle

Homework:

Directions: Round to the nearest tenth if needed.

1. The famous Leaning Tower of Pisa was originally 184.5 feet high. At a distance of 123 feet from the base of the tower, the angle of elevation to the top of the tower is found to be 60°. Solve the triangle and round to the nearest tenth.



m<C= _____

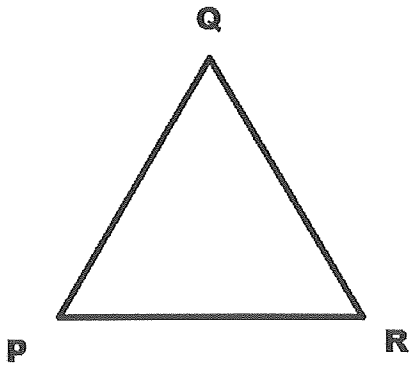
m<A= _____

CB = _____

Name: _____ Hour: _____

2. SOLVE the triangle. (Triangle PQR)

$m\angle P = 89, p = 16, r = 12$



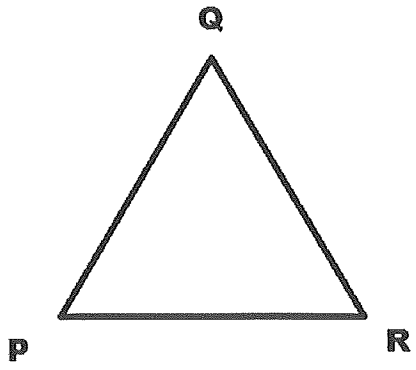
<R = _____

<Q = _____

q = _____

3. SOLVE the triangle. (Triangle PQR)

$m\angle R = 49, m\angle Q = 76, r = 26$



<P = _____

q = _____

p = _____

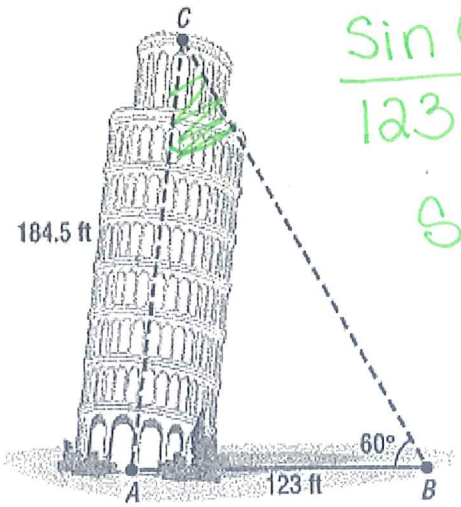
Name: Key Hour: _____

Law of Sines Solving for a Triangle

Homework:

Directions: Round to the nearest tenth if needed.

1. The famous Leaning Tower of Pisa was originally 184.5 feet high. At a distance of 123 feet from the base of the tower, the angle of elevation to the top of the tower is found to be 60°. Solve the triangle and round to the nearest tenth.



$\frac{\sin C}{123} = \frac{\sin(60)}{184.5}$

$\sin C = \frac{123 \cdot \sin(60)}{184.5}$

$\angle C = \sin^{-1}\left(\frac{123 \cdot \sin(60)}{184.5}\right)$

$\angle C = 35.3°$

m<C= 35.3°

m<A= 84.7°

CB = 212.1ft

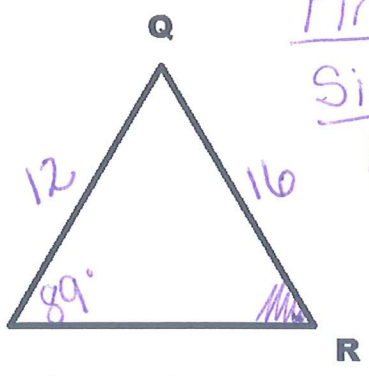
$\frac{\sin(84.7)}{a} = \frac{\sin(60)}{184.5}$

$\frac{184.5 \times \sin(84.7)}{\sin(60)} = \frac{a \sin(60)}{\sin(60)}$

Name: _____ Hour: _____

2. SOLVE the triangle. (Triangle PQR)

$m\angle P = 89, p = 16, r = 12$



Find R

$\frac{\sin R}{12} = \frac{\sin(89)}{16}$

$\sin R = \frac{12\sin(89)}{16}$

$\angle R = \sin^{-1}\left(\frac{12\sin(89)}{16}\right)$

$\angle R = 48.6°$

$\angle Q = 42.4°$

$q = 10.8$

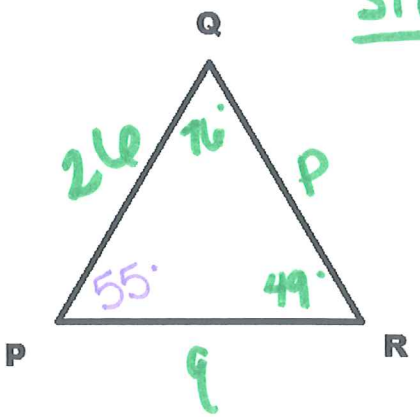
$\frac{\sin(42.4)}{q} = \frac{\sin(89)}{16}$

$16\sin(42.4) = q\sin(89)$

$q = 10.8$

3. SOLVE the triangle. (Triangle PQR)

$m\angle R = 49, m\angle Q = 76, r = 26$



$\frac{\sin(76)}{q} = \frac{\sin(49)}{26}$

$\frac{26\sin(76)}{\sin(49)} = \frac{q\sin(49)}{\sin(49)}$

$q = 33.4$

$\frac{\sin(55)}{p} = \frac{\sin(49)}{26}$

$26 \cdot \sin(55) = p\sin(49)$

$p = 28.2$

Δ sum

$\angle P = 55°$

$q = 33.4$

$p = 28.2$