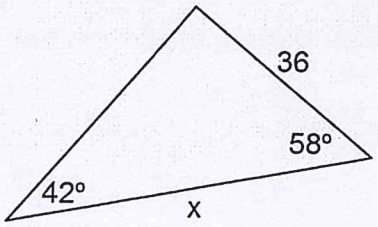
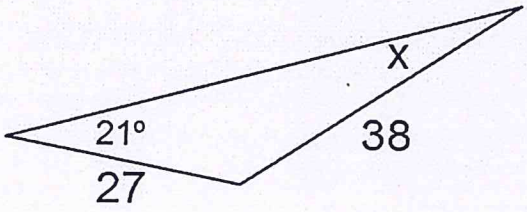
Bellwork Alg 2 Friday, May 17, 2019

1. Find the value of x to the nearest hundredth.

a.

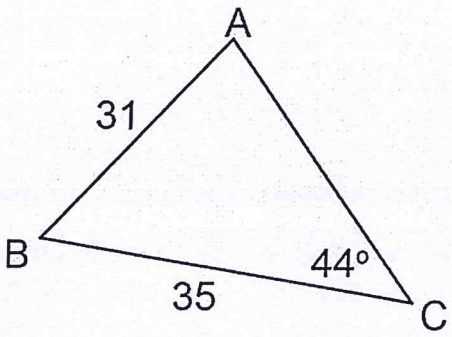


b.



2. In $\triangle BCD$, $\angle D = 72°$, $\angle B = 38°$, and $d = 50$. Find c to the nearest hundredth.

3. Solve this triangle.

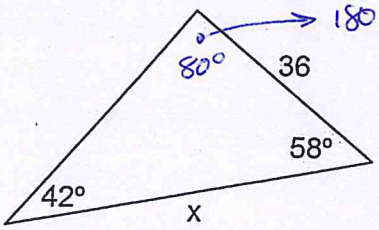


Bellwork Alg 2 Friday, May 17, 2019

ANSWERS

1. Find the value of x to the nearest hundredth.

a.

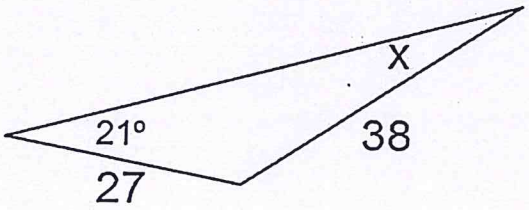


$180 - 42 - 58 = 80°$

$\frac{x}{\sin 80°} = \frac{36}{\sin 42°}$

$x = \frac{36 \sin 80°}{\sin 42°} = 52.98$

b.



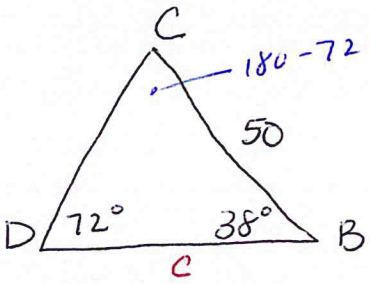
$\frac{\sin X}{27} = \frac{\sin 21}{38}$

$\sin x = \frac{27 \cdot \sin 21}{38}$

$X = \sin^{-1}\left(\frac{27 \cdot \sin 21}{38}\right)$

$X = 14.75°$

2. In $\triangle BCD$, $\angle D = 72°$, $\angle B = 38°$, and $d = 50$. Find c to the nearest hundredth.



$180 - 72 - 38 = 70°$

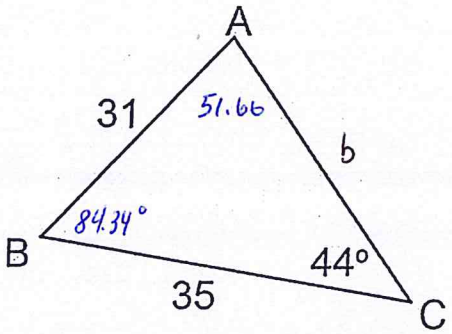
$\frac{c}{\sin C} = \frac{50}{\sin 72°}$

$\frac{c}{\sin 70°} = \frac{50}{\sin 72°}$

$c = \frac{50 \sin 70°}{\sin 72°}$

$c = 49.40$

3. Solve this triangle.



$\angle A = 51.66°$

$\angle B = 84.34$

$b = 44.41$

FIRST FIND $\angle A$: $\frac{\sin A}{35} = \frac{\sin 44°}{31}$

$\angle A = \sin^{-1}\left(\frac{35 \sin 44°}{31}\right) = 51.66°$

2nd find $\angle B$

$\angle B = 180 - 44 - 51.66 = 84.34°$

3rd find side b

$\frac{b}{\sin 84.34} = \frac{31}{\sin 44}$

$b = \frac{31 \sin 84.34}{\quad} = 44.41$