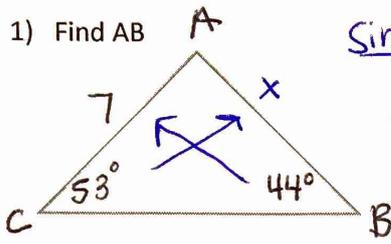


AFM UNIT 3 HW 2 - LOS AND AMBIGUOUS CASE

NAME Kry Fall 16

Find each measurement indicated. Round your answers to the nearest tenth. Show all work.

1) Find AB



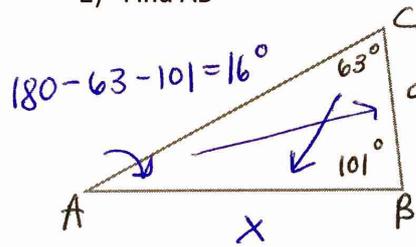
$$\frac{\sin 53}{x} = \frac{\sin 44}{7}$$

$$7 \sin 53 = x \sin 44$$

$$x = \frac{7 \sin 53}{\sin 44}$$

$x = 8$

2) Find AB



$$180 - 63 - 101 = 16^\circ$$

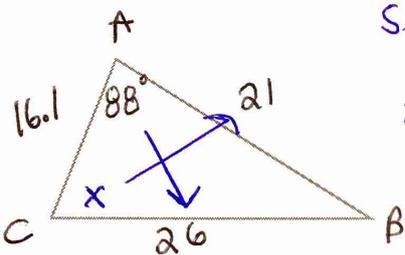
$$\frac{\sin 16}{9} = \frac{\sin 63}{x}$$

$$x \sin 16 = 9 \sin 63$$

$$x = \frac{9 \sin 63}{\sin 16}$$

$x = 29.1$

3) Find $m\angle C$



$$\frac{\sin 88}{26} = \frac{\sin x}{21}$$

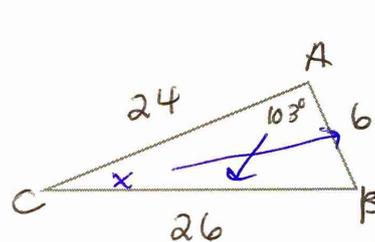
$$26 \sin x = 21 \sin 88$$

$$\sin x = \frac{21 \sin 88}{26}$$

$$x = \sin^{-1}\left(\frac{21 \sin 88}{26}\right)$$

$x = 54^\circ$

4) Find $m\angle C$



$$\frac{\sin x}{6} = \frac{\sin 103}{26}$$

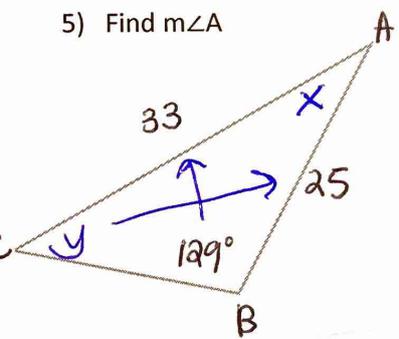
$$26 \sin x = 6 \sin 103$$

$$\sin x = \frac{6 \sin 103}{26}$$

$$x = \sin^{-1}\left(\frac{6 \sin 103}{26}\right)$$

$x = 13^\circ$

5) Find $m\angle A$



*first use LOS to find $m\angle C$

$$\frac{\sin y}{25} = \frac{\sin 129}{33}$$

$$33 \sin y = 25 \sin 129$$

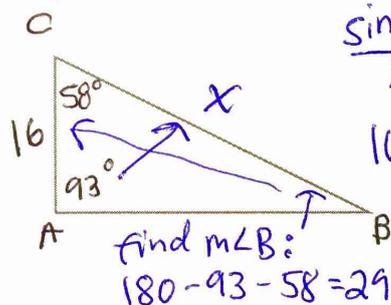
$$y = \sin^{-1}\left(\frac{25 \sin 129}{33}\right)$$

$$y = 36^\circ$$

$$180 - 129 - 36 = 15^\circ$$

$x = 15^\circ$

6) Find BC



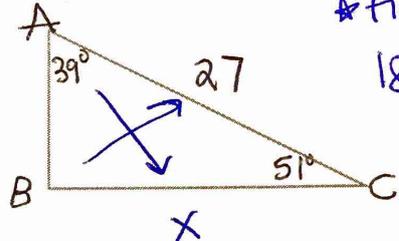
$$\frac{\sin 93}{x} = \frac{\sin 29}{16}$$

$$16 \sin 93 = x \sin 29$$

$$\frac{16 \sin 93}{\sin 29} = x$$

$x = 33$

7) Find BC



*first find $m\angle B$:

$$180 - 39 - 51 = 90^\circ$$

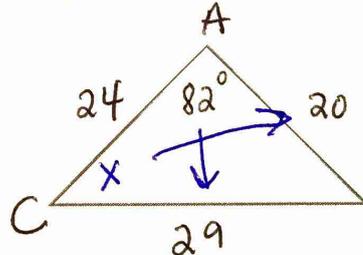
$$\frac{\sin 39}{x} = \frac{\sin 90}{27}$$

$$x \sin 90 = 27 \sin 39$$

$$x = \frac{27 \sin 39}{\sin 90}$$

$x = 17$

8) Find $m\angle C$



$$\frac{\sin 82}{29} = \frac{\sin x}{20}$$

$$20 \sin 82 = 29 \sin x$$

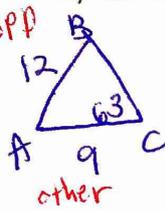
$$x = \sin^{-1}\left(\frac{20 \sin 82}{29}\right)$$

$x = 43$

HW 2

State the number of possible triangles that can be formed using the given measurements. Sketch a picture and show your work.

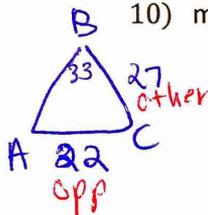
9) $m\angle C = 63$ degrees, $b = 9$, $c = 12$



ACUTE, opp > other

1 solution

10) $m\angle B = 33$ degrees, $a = 27$, $b = 22$



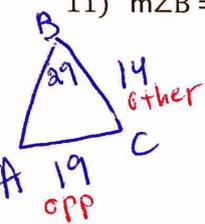
ACUTE, opp < other

find h $h = 27 \sin 33$
 $h = 14.7$

opp > h

2 solutions

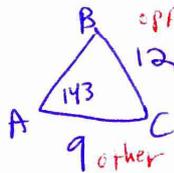
11) $m\angle B = 29$ degrees, $a = 14$, $b = 19$



ACUTE, opp > other

1 solution

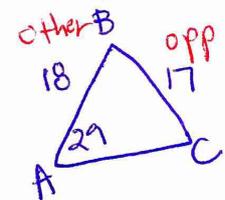
12) $m\angle A = 143$ degrees, $a = 12$, $b = 9$



OBTUSE, opp > other

1 solution

13) $m\angle A = 29$ degrees, $c = 18$, $a = 17$



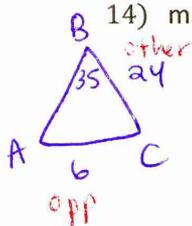
ACUTE, opp < other

find h $h = 18 \sin 29$
 $h = 8.7$

opp > h

2 solutions

14) $m\angle B = 35$ degrees, $a = 24$, $b = 6$



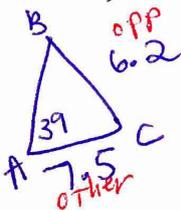
ACUTE, opp < other

find h $h = 24 \sin 35$
 $h = 13.8$

opp < h

No Solution

15) $m\angle A = 39$ degrees, $a = 6.2$, $b = 7.5$



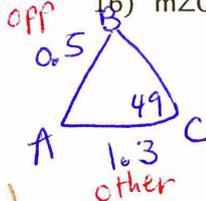
ACUTE, opp < other

find h $h = 7.5 \sin 39$
 $h = 4.7$

opp > h

2 solutions

16) $m\angle C = 49$ degrees, $b = 1.3$, $c = 0.5$



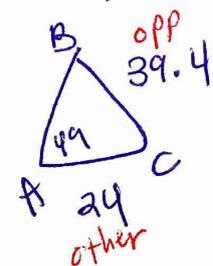
ACUTE, opp < other

find h $h = 1.3 \sin 49$
 $h = 1$

opp < h

No Solution

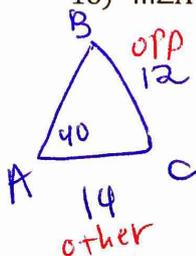
17) $m\angle A = 49$ degrees, $a = 39.4$, $b = 24$



ACUTE, opp > other

1 solution

18) $m\angle A = 40$ degrees, $b = 14$, $a = 12$



ACUTE, opp < other

find h $h = 14 \sin 40$
 $h = 9$

opp > h

2 solutions