

Name: _____

April 20, 2018

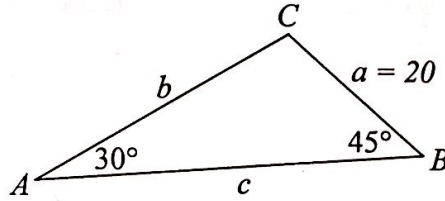
Period: _____

Law of Sines

Use the Law of Sines to solve the triangle (find all three angle measures and all three side lengths).

1.

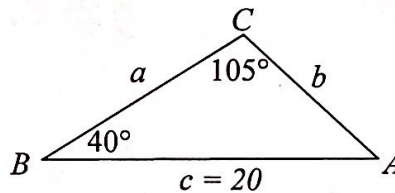
Angles	Sides
A = 30°	a = 20
B = 45°	b = 28.3
C = 105°	c = 38.1



$$\frac{\sin 30^\circ}{20} = \frac{\sin 45^\circ}{b}$$

2.

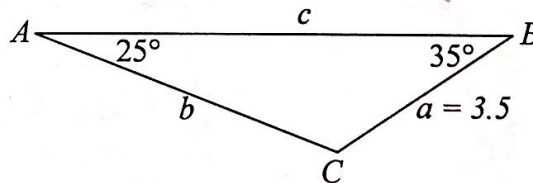
Angles	Sides
A = 35°	a = 11.9
B = 40°	b = 13.3
C = 105°	c = 20



$$\frac{\sin 105^\circ}{20} = \frac{\sin 40^\circ}{b}$$

3.

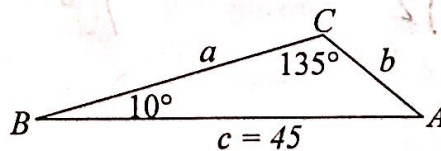
Angles	Sides
A = 25°	a = 3.5
B = 35°	b = 4.8
C = 120°	c = 7.2



$$\frac{\sin 35^\circ}{b} = \frac{\sin 25^\circ}{3.5}$$

4.

Angles	Sides
A = 35°	a = 36.5
B = 10°	b = 11.1
C = 135°	c = 45



$$\frac{\sin 135^\circ}{45} = \frac{\sin 10^\circ}{b}$$

5. $A = 35^\circ, a = 4, b = 5$

Angles	Sides	and possibly	Angles	Sides
$A = 35^\circ$	$a = 4$		$A = 35^\circ$	$a = 4$
$B = 45.8^\circ$	$b = 5$		$B = 134.2^\circ$	$b = 5$
$C = 99.2^\circ$	$c = 6.9$		$C = 10.8^\circ$	$c = 1.3$

$$\frac{\sin 35^\circ}{4} = \frac{\sin B}{5}$$

$$\frac{\sin 35^\circ}{4} = \frac{\sin 99.2^\circ}{c}$$

6. $C = 35^\circ, a = 5, c = 7$

Angles	Sides	and possibly	Angles	Sides
$A = 24.2^\circ$	$a = 5$		$A = 155.8^\circ$	$a = 5$
$B = 120.8^\circ$	$b = 10.5$		$B =$	$b =$
$C = 35^\circ$	$c = 7$		$C = 35^\circ$	$c = 7$

$$\frac{\sin 35^\circ}{7} = \frac{\sin A}{5}$$

$$\frac{\sin 35^\circ}{7} = \frac{\sin 120.8^\circ}{b}$$

7. $A = 10^\circ, a = 12, b = 15$

Angles	Sides	and possibly	Angles	Sides
$A = 10^\circ$	$a = 12$		$A = 10^\circ$	$a = 12$
$B = 12.5^\circ$	$b = 15$		$B = 167.5^\circ$	$b = 15$
$C = 157.5^\circ$	$c = 26.4$		$C = 2.5^\circ$	$c = 3$

$$\frac{\sin 10^\circ}{12} = \frac{\sin B}{15}$$

$$\frac{\sin 10^\circ}{12} = \frac{\sin 157.5^\circ}{c}$$

8. $B = 10^\circ, a = 5, b = 12$

Angles	Sides	and possibly	Angles	Sides
$A = 4.1^\circ$	$a = 5$		$A = 175.9^\circ$	$a = 5$
$B = 10^\circ$	$b = 12$		$B = 10^\circ$	$b = 12$
$C = 165.9^\circ$	$c = 16.8$		$C =$	$c =$

$$\frac{\sin 10^\circ}{12} = \frac{\sin A}{5}$$

$$\frac{\sin 10^\circ}{12} = \frac{\sin 165.9^\circ}{c}$$