



Name _____ Date _____ Period _____

LAW OF SINES WORKSHEET

Law of Sines:
$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

Solve the following equations for x .

1.
$$\frac{\sin(68^\circ)}{x} = \frac{\sin(37^\circ)}{3}$$

2.
$$\frac{\sin(24^\circ)}{8} = \frac{\sin(x)}{3.75}$$

$x =$ _____

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State how many triangles can be formed given the following information:

3. $m\angle A = 80^\circ, a = 12, b = 16$

4. $m\angle B = 50^\circ, b = 20, c = 15$

5. $m\angle A = 48^\circ, a = 20, b = 25$

6. $m\angle B = 130^\circ, b = 4, a = 7$

Find each measure using the given measures of $\triangle KLM$.

7. In $\triangle KLM$; $m = 10.5$, $k = 18.2$, and $m\angle K = 73^\circ$. Find $m\angle M$.

$\angle M =$ _____

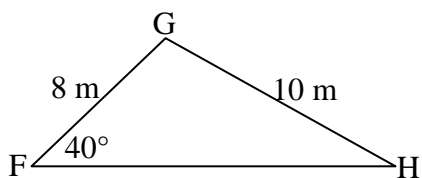
8. In $\triangle KLM$; $m\angle L = 88^\circ$, $m\angle K = 31^\circ$, and $m = 5.4$. Find l .

$l =$ _____

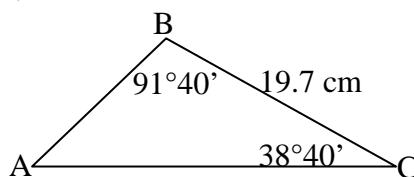
9. In $\triangle ABC$; $m\angle A = 20.5^\circ$, $a = 12$, and $b = 31$. Solve the triangle(s).

Solve each triangle by finding all of the missing side lengths and angle measures.

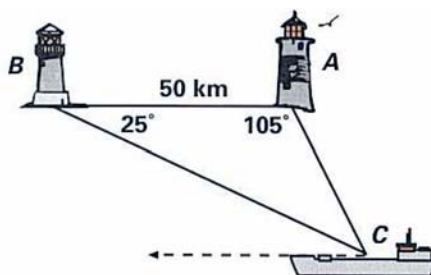
10.



11.



12. Two lighthouses A and B are 50 km apart. At 4am, a freighter is sighted at point C as shown in the diagram below.



a. How far is the freighter from lighthouse B?

b. How far is the freighter from lighthouse A?