Worksheet #2 – Sine & Cosine Law

Solve the following equations for x.

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

$x =$ _____

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

$x =$ _____

3. $23^2 = 37^2 + 18^2 - 2(37)(18)\cos(x)$

$x =$ _____

4. $x^2 = 10^2 + 8^2 - 2(10)(8)\cos(60°)$

$x =$ _____

Find each measure using the given measures of ΔKLM .

5. In ΔKLM ; $m = 10.5$, $k = 18.2$, and $m\angle K = 73°$. Find $m\angle M$.

$\angle M =$_____

6. In ΔKLM ; $m\angle L = 88°$, $m\angle K = 31°$, and $m = 5.4$. Find l .

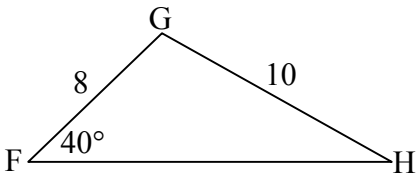
$l =$_____

7. In ΔKLM ; $m = 11$, $l = 17$, and $m\angle K = 59°$. Find k .

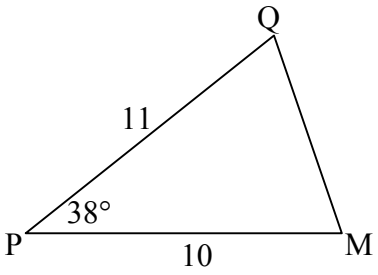
$k =$_____

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

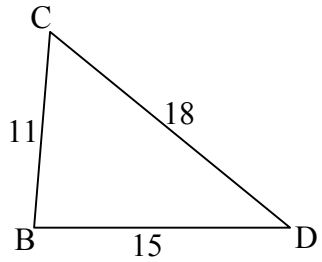
8.



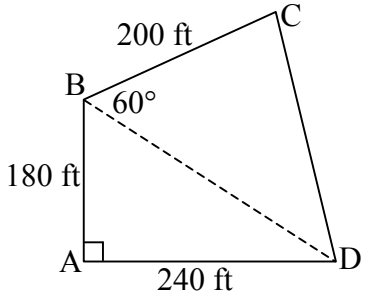
9.



10.



11. Ms. Jenkins is buying some property that is shaped like quadrilateral *ABCD* below. Find the perimeter of the property.



12. Sketch two different triangles such that: $a = 19$, $b = 25$, $A = 43°$ and solve.

For questions 13 – 15 sketch and solve for **all** missing sides and angles in each triangle. Round to the nearest whole number

13. $\Delta XYZ: \quad x = 29m, y = 15m, \angle Z = 122°$

∠X = _____ ∠Y = _____ z = _____

14. $\Delta GHI: \quad g = 13cm, h = 8cm, i = 15cm$

∠G = _____ ∠H = _____ ∠I = _____

15. ΔMNO: $n = 31m, o = 28m, \angle M = 62°$

$\angle N$ = _____ $\angle O$ = _____ m = _____

16. A baseball infield is determined by a square with sides 90 ft long. Draw a diagram, home plate is *H* and first base is *F*. Suppose the first baseman ran in a straight line from *F* to catch a pop-up at *B*, 120 ft from home plate. If the measure of $\angle FHB$ is 10°, how far did the first baseman run?