

MBF 3C

Sine Law Worksheet – Finding Sides

1. Solve for the given variable (correct to 1 decimal place) in each of the following:

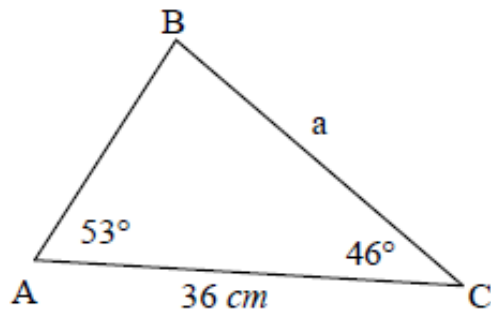
(a) $\frac{a}{\sin 35^\circ} = \frac{10}{\sin 40^\circ}$

(b) $\frac{65}{\sin 75^\circ} = \frac{b}{\sin 48^\circ}$

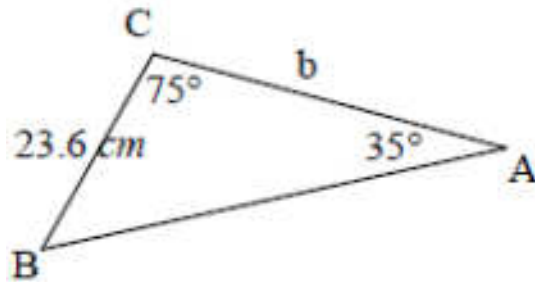
(c) $\frac{75}{\sin 55^\circ} = \frac{c}{\sin 80^\circ}$

2. Solve for the unknown side (variable) in each triangle.

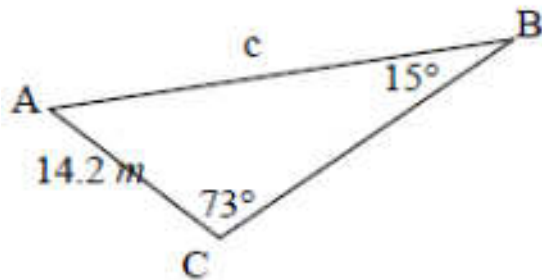
(a)



(b)



(c)



3. For each of the following triangle descriptions you should make a sketch and then find the indicated side rounded correctly to one decimal place.

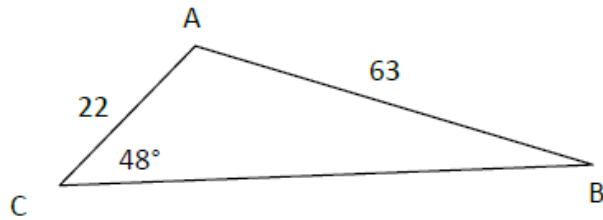
(a) In $\triangle ABC$, given that $\angle A = 57^\circ$, $\angle B = 73^\circ$, and $AB = 24\text{ cm}$. Find the length of AC

(b) In $\triangle ABC$, given that $\angle B = 38^\circ$, $\angle C = 56^\circ$, and $BC = 63\text{ cm}$. Find the length of AB

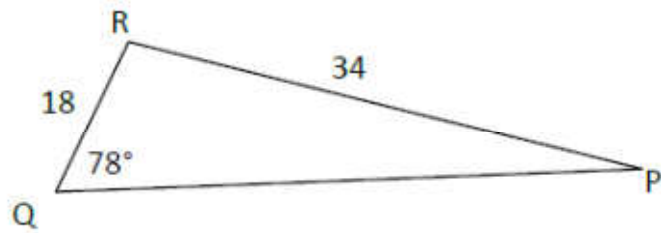
(c) In $\triangle ABC$, given that $\angle A = 50^\circ$, $\angle B = 50^\circ$, and $AC = 27\text{ m}$. Find the length of AB

(d) In $\triangle ABC$, given that $\angle A = 23^\circ$, $\angle C = 78^\circ$, and $AB = 15\text{ cm}$. Find the length of BC

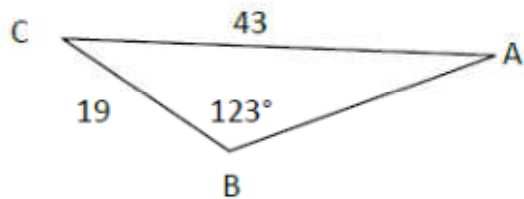
4. Find the measure of angle B, to the nearest degree.



5. Find the measure of angle P, to the nearest degree.



6. Find the measure of angle P, to the nearest degree.



7. For $\triangle ABC$, $a = 42$, $c = 72$ and $\angle C = 41^\circ$.

Find the measure of angle A, to the nearest degree. (Draw and label the \triangle first!)

Solutions:

1. (a) 8.9 (b) 50.0 (c) 90.2 2. (a) 29.1 cm (b) 38.7 cm (c) 52.5 m
 3. (a) 30.0 cm (b) 52.4 cm (c) 34.7 m (d) 6.0 cm
 4. 15° 5. 31° 6. 22° 7. 23°

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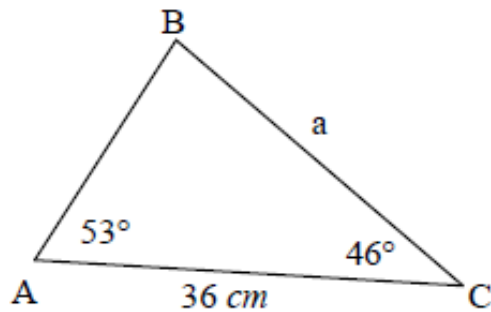
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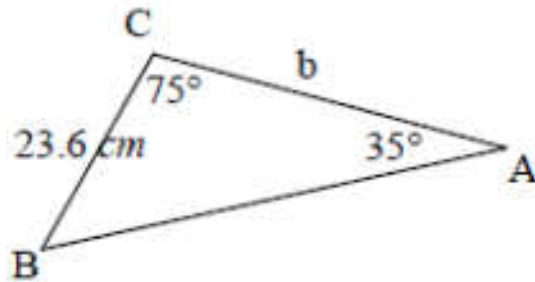
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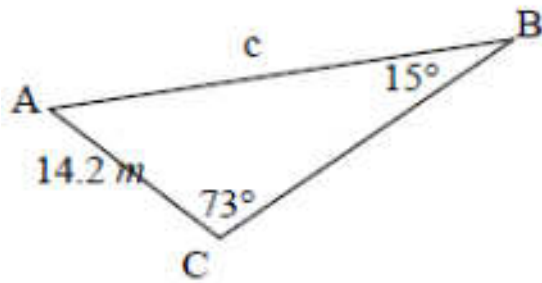
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(b)



(c)



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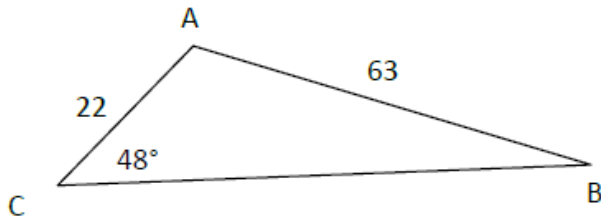
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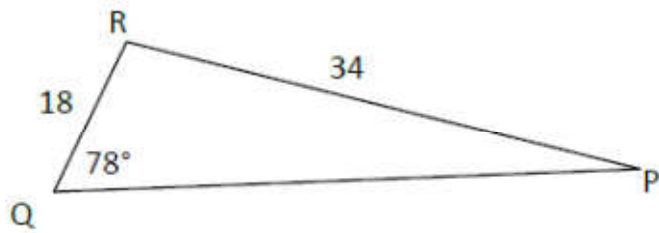
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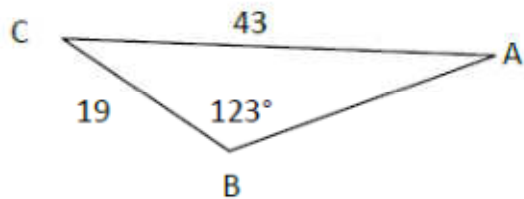
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