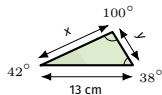


Push Tasks — Answers



For each triangle, find x , y , then the perimeter. Use the Sine Rule efficiently and give every length to 1 decimal place.

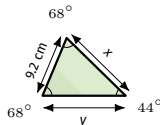
1.



Solution

$$x = 13 \frac{\sin 38^\circ}{\sin 100^\circ} = 8.1$$
$$y = 13 \frac{\sin 42^\circ}{\sin 100^\circ} = 8.8$$
$$P = 30.0 \text{ cm}$$

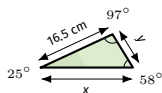
2.



Solution

$$x = 9.2 \frac{\sin 68^\circ}{\sin 44^\circ} = 12.3$$
$$y = 9.2 \frac{\sin 68^\circ}{\sin 44^\circ} = 12.3$$
$$P = 33.8 \text{ cm}$$

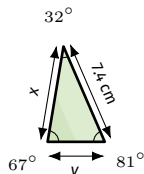
3.



Solution

$$x = 16.5 \frac{\sin 97^\circ}{\sin 58^\circ} = 19.3$$
$$y = 16.5 \frac{\sin 25^\circ}{\sin 58^\circ} = 8.2$$
$$P = 44.0 \text{ cm}$$

4.



Solution

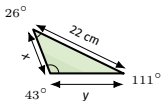
$$x = 7.4 \frac{\sin 81^\circ}{\sin 67^\circ} = 7.9$$
$$y = 7.4 \frac{\sin 32^\circ}{\sin 67^\circ} = 4.3$$
$$P = 19.6 \text{ cm}$$

Push Tasks — Answers



For each triangle, find x , y , then the perimeter. Decide which side to calculate first, and use exact calculator values in the second calculation.

5.



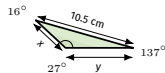
Solution

$$x = 22 \frac{\sin 111^\circ}{\sin 43^\circ} = 30.1$$

$$y = 22 \frac{\sin 26^\circ}{\sin 43^\circ} = 14.1$$

$$P = 66.3 \text{ cm}$$

6.



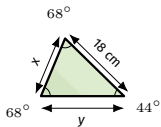
Solution

$$x = 10.5 \frac{\sin 137^\circ}{\sin 27^\circ} = 15.8$$

$$y = 10.5 \frac{\sin 16^\circ}{\sin 27^\circ} = 6.4$$

$$P = 32.6 \text{ cm}$$

7.



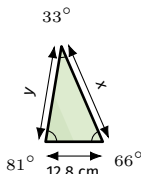
Solution

$$x = 18 \frac{\sin 44^\circ}{\sin 68^\circ} = 13.5$$

$$y = 18 \frac{\sin 68^\circ}{\sin 68^\circ} = 18.0$$

$$P = 49.5 \text{ cm}$$

8.



Solution

$$x = 12.8 \frac{\sin 81^\circ}{\sin 33^\circ} = 23.2$$

$$y = 12.8 \frac{\sin 66^\circ}{\sin 33^\circ} = 21.5$$

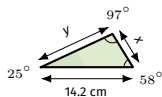
$$P = 57.5 \text{ cm}$$

Push Tasks — Answers



For each triangle, find x , y , and the perimeter, then explain one reasonableness check.

9.



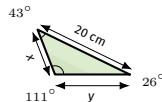
Solution

$$x = 14.2 \frac{\sin 25^\circ}{\sin 97^\circ} = 6.0$$

$$y = 14.2 \frac{\sin 58^\circ}{\sin 97^\circ} = 12.1$$

$P = 32.4$ cm; longest side opp 97°

10.



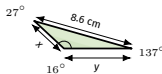
Solution

$$x = 20 \frac{\sin 26^\circ}{\sin 111^\circ} = 9.4$$

$$y = 20 \frac{\sin 43^\circ}{\sin 111^\circ} = 14.6$$

$P = 44.0$ cm; 20 opp 111° longest

11.



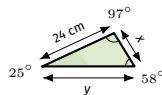
Solution

$$x = 8.6 \frac{\sin 137^\circ}{\sin 16^\circ} = 21.3$$

$$y = 8.6 \frac{\sin 27^\circ}{\sin 16^\circ} = 14.2$$

$P = 44.0$ cm; x opp 137° longest

12.



Solution

$$x = 24 \frac{\sin 25^\circ}{\sin 58^\circ} = 12.0$$

$$y = 24 \frac{\sin 97^\circ}{\sin 58^\circ} = 28.1$$

$P = 64.0$ cm; y opp 97° longest