

Exercises

HW#3 - set calc. on degrees **YOU WILL NEED**

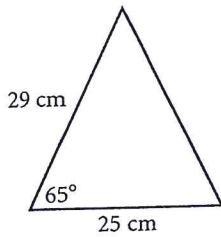
In Exercises 1-4, find the area of each polygon to the nearest square centimeter.



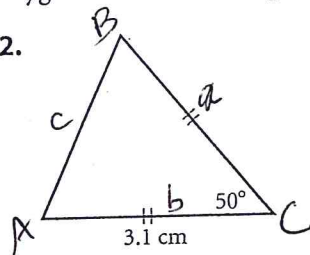
A calculator for Exercises 1-15

Construction tools for Exercise 18

1.

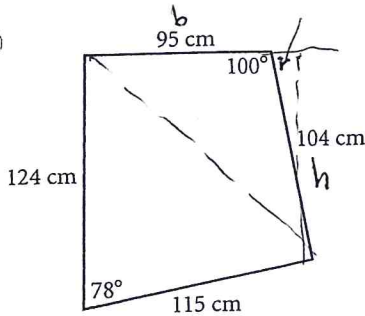


2.

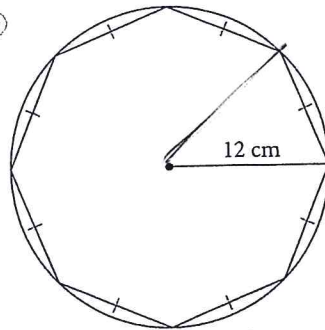


$$A = \frac{1}{2} \cdot b \cdot a \cdot \sin C$$

3.



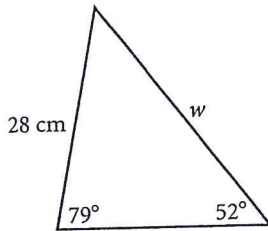
4.



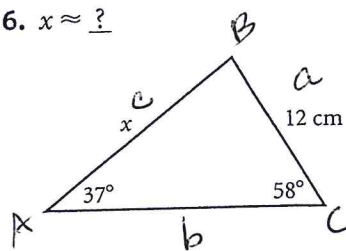
In Exercises 5-7, find each length to the nearest centimeter.

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

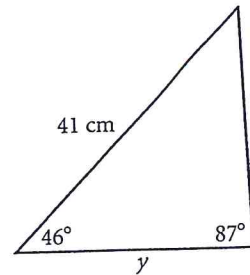
5. $w \approx ?$



6. $x \approx ?$

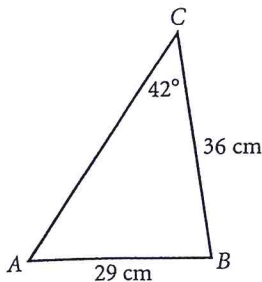


7. $y \approx ?$

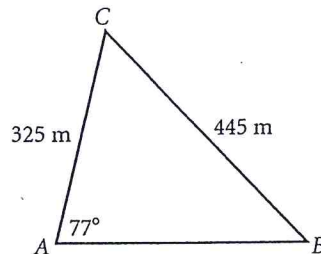


In Exercises 8-10, each triangle is an acute triangle. Find each angle measure to the nearest degree.

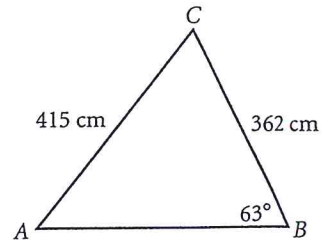
8. $m\angle A \approx ?$



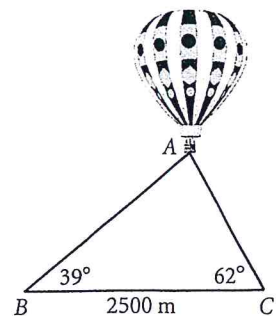
9. $m\angle B \approx ?$



10. $m\angle C \approx ?$



11. Alphonse (point A) is over a 2500 meter landing strip in a hot-air balloon. At one end of the strip, Beatrice (point B) sees Alphonse with an angle of elevation measuring 39° . At the other end of the strip, Collette (point C) sees Alphonse with an angle of elevation measuring 62° .
- What is the distance between Alphonse and Beatrice?
 - What is the distance between Alphonse and Collette?
 - How high up is Alphonse?



Exercises

Set calculator on HW #3
degree

YOU WILL NEED

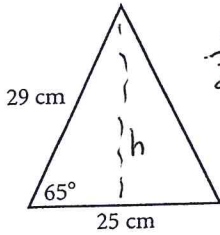


A calculator for Exercises 1-15

Construction tools for Exercise 18

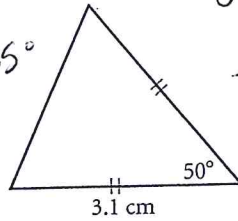
In Exercises 1-4, find the area of each polygon to the nearest square centimeter.

1.



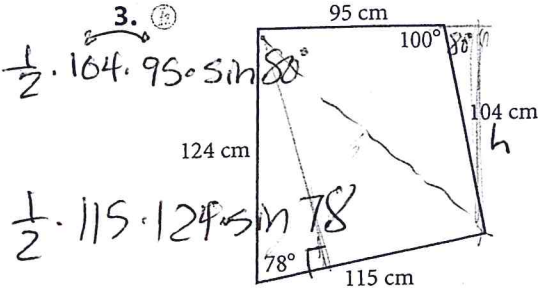
$$\frac{1}{2} \cdot 25 \cdot 29 \cdot \sin 65^\circ$$

2.



$$\frac{1}{2} \cdot 3.1 \cdot 3.1 \cdot \sin 50^\circ$$

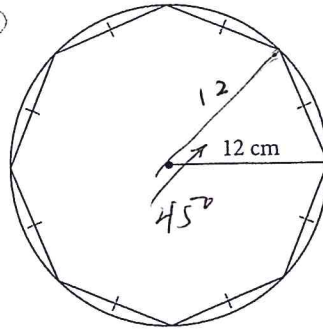
3.



$$\frac{1}{2} \cdot 104 \cdot 95 \cdot \sin 80^\circ$$

$$\frac{1}{2} \cdot 115 \cdot 124 \cdot \sin 78^\circ$$

4.

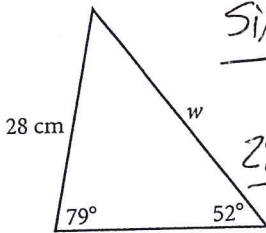


$$\left(\frac{1}{2} \cdot 12 \cdot 12 \cdot \sin 45^\circ \right) 8$$

of Δ 's

In Exercises 5-7, find each length to the nearest centimeter.

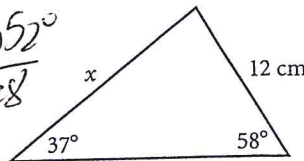
5. $w \approx ?$



$$\frac{\sin 79^\circ}{w} = \frac{\sin 52^\circ}{28}$$

$$28 \cdot \sin 79^\circ = w \cdot \sin 52^\circ$$

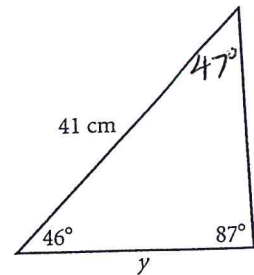
6. $x \approx ?$



$$\frac{\sin 58^\circ}{x} = \frac{\sin 37^\circ}{12}$$

$$12 \cdot \sin 58^\circ = x \cdot \sin 37^\circ$$

7. $y \approx ?$

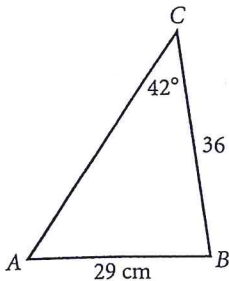


$$\frac{\sin 87^\circ}{41} = \frac{\sin 47^\circ}{y}$$

$$\frac{46}{133}$$

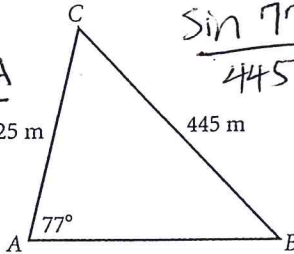
In Exercises 8-10, each triangle is an acute triangle. Find each angle measure to the nearest degree.

8. $m\angle A \approx ?$



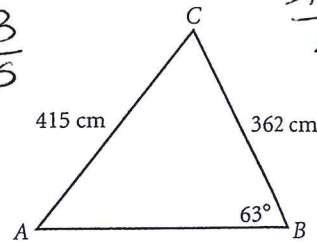
$$\frac{\sin 42^\circ}{29} = \frac{\sin A}{36}$$

9. $m\angle B \approx ?$



$$\frac{\sin 77^\circ}{445} = \frac{\sin B}{325}$$

10. $m\angle C \approx ?$



$$\frac{\sin 63^\circ}{415} = \frac{\sin A}{362}$$

$$180 - A - 63 = LC =$$

11. Alphonse (point A) is over a 2500 meter landing strip in a hot-air balloon.

At one end of the strip, Beatrice (point B) sees Alphonse with an angle of elevation measuring 39° . At the other end of the strip, Collette (point C) sees Alphonse with an angle of elevation measuring 62° .

a. What is the distance between Alphonse and Beatrice?

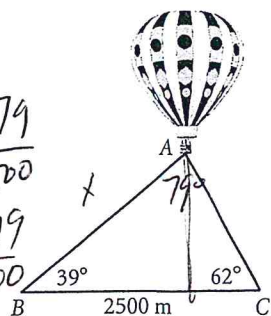
b. What is the distance between Alphonse and Collette?

c. How high up is Alphonse?

$$\sin 39^\circ = \frac{h}{AB}$$

$$\frac{\sin 62^\circ}{x} = \frac{\sin 79^\circ}{2500}$$

$$\frac{\sin 39^\circ}{y} = \frac{\sin 79^\circ}{2500}$$



$$\frac{39}{62}$$

$$\frac{180}{-101} = \frac{79}{79}$$