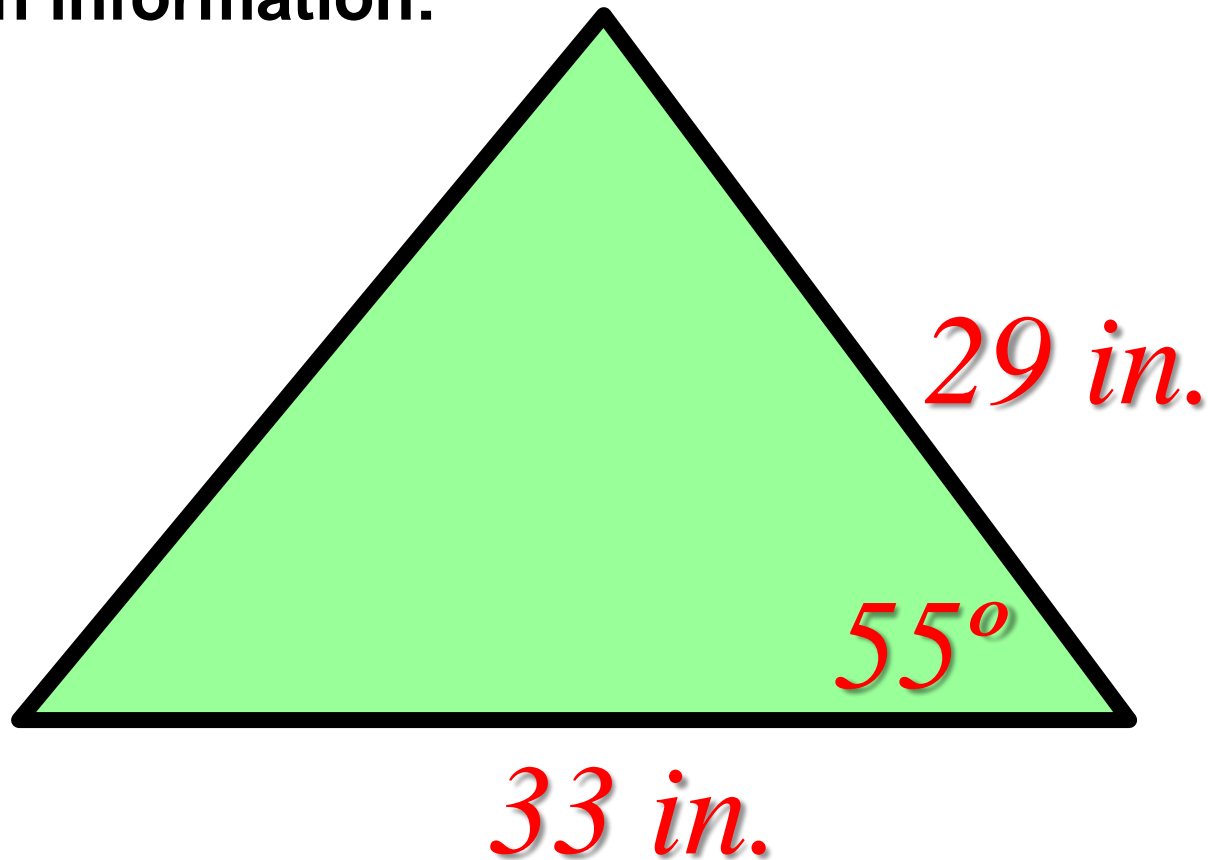


8.9

# The Law of Sines

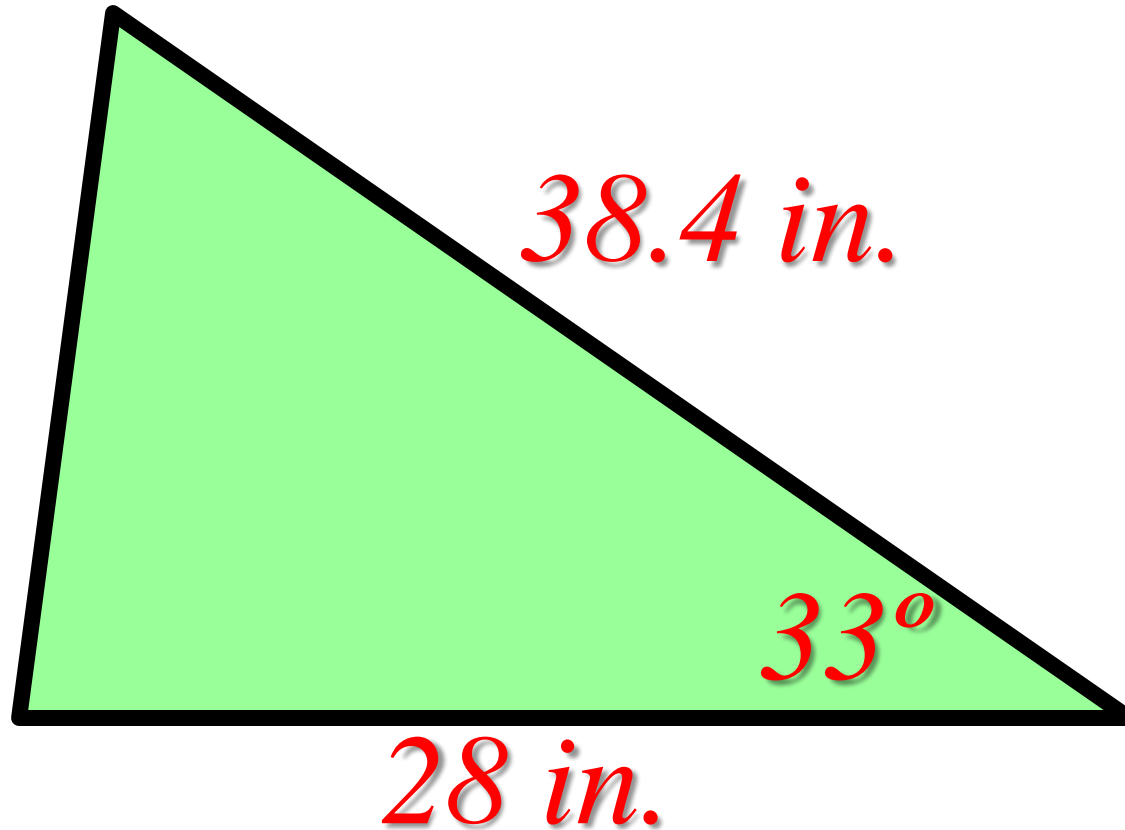
# Finding the Height in Non-Right Triangles

1) Find the height of the following triangle with the given information:



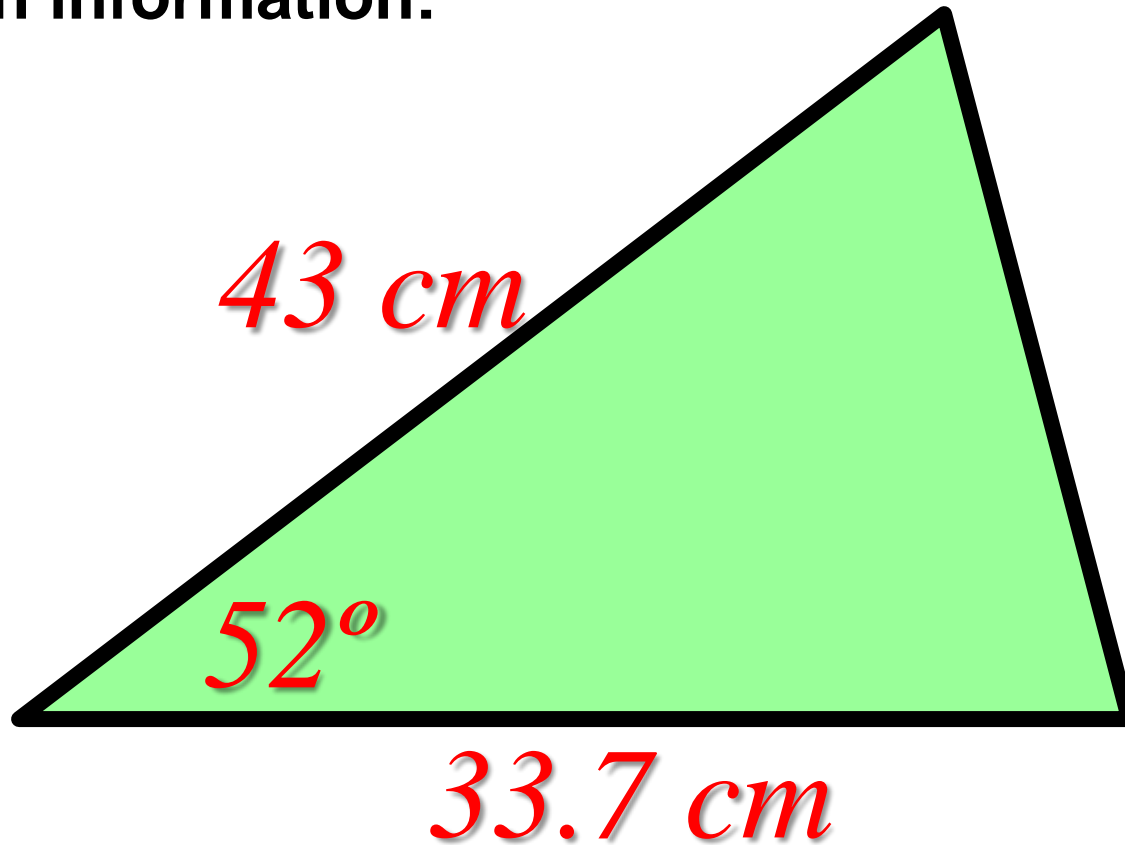
## Finding the Height in Non-Right Triangles

2) Find the height of the following triangle with the given information:



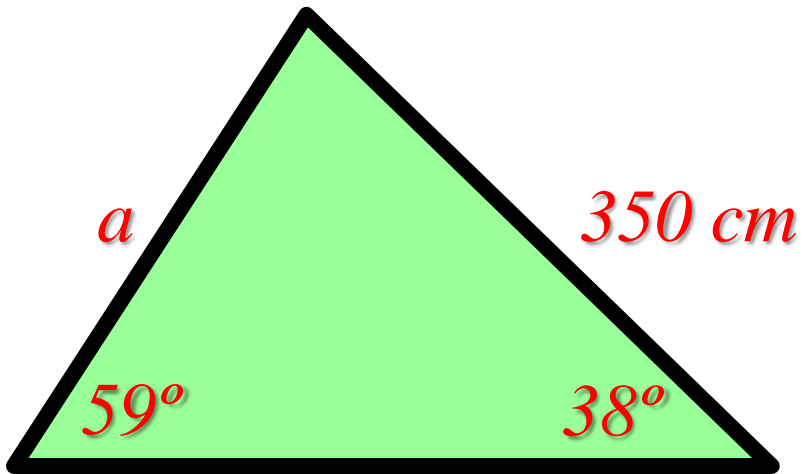
## Finding the Height in Non-Right Triangles

3) Find the height of the following triangle with the given information:



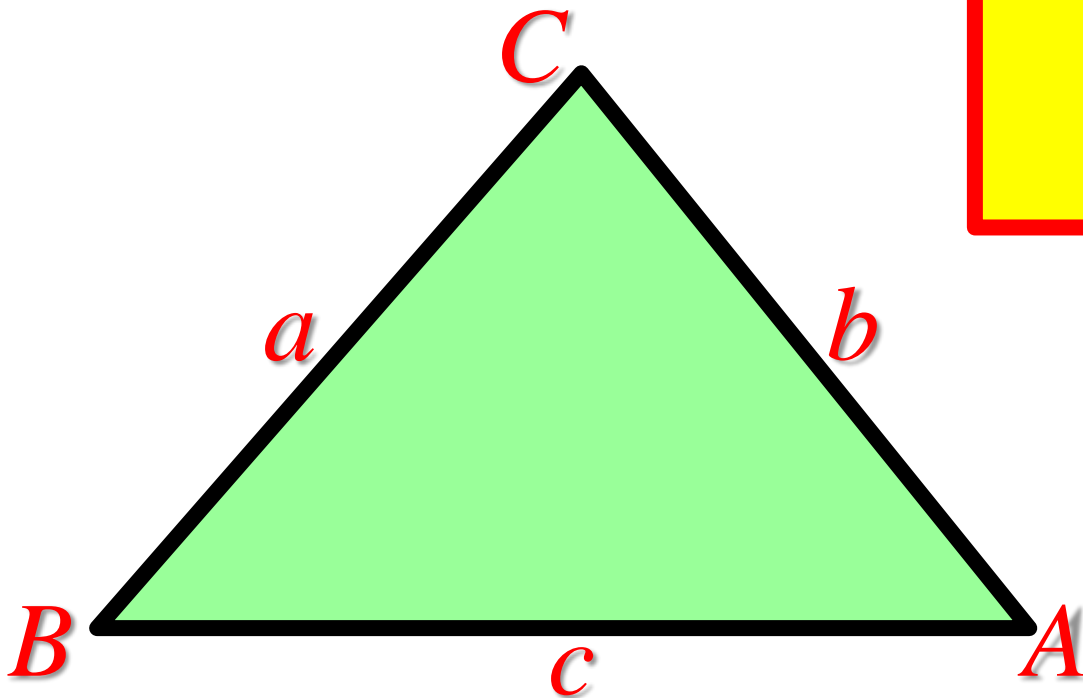
## Finding Missing Sides in Non-Right Triangles

4) Find the missing side of the following triangle with the given information:



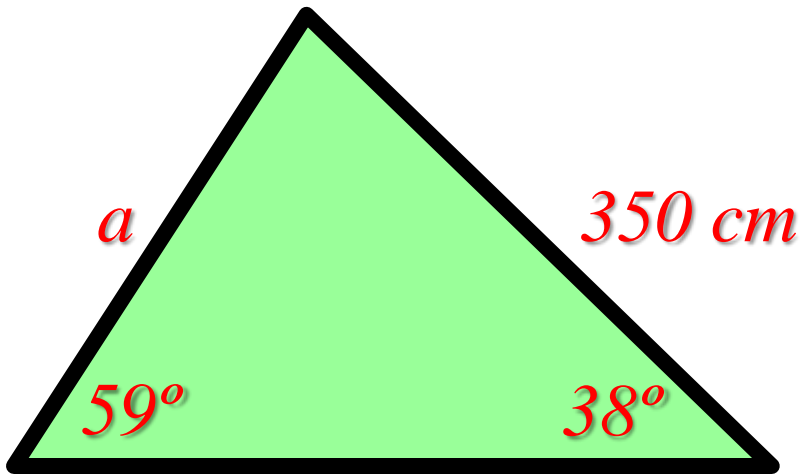
# Law of Sines

This is a formula to help you figure out missing sides or angles for many triangles.



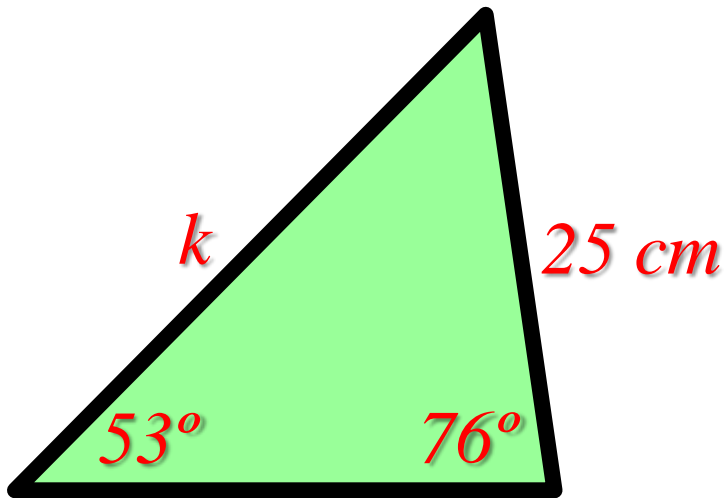
## Finding Missing Sides in Non-Right Triangles

5) Find the missing side of the following triangle with the given information:



## Finding Missing Sides in Non-Right Triangles

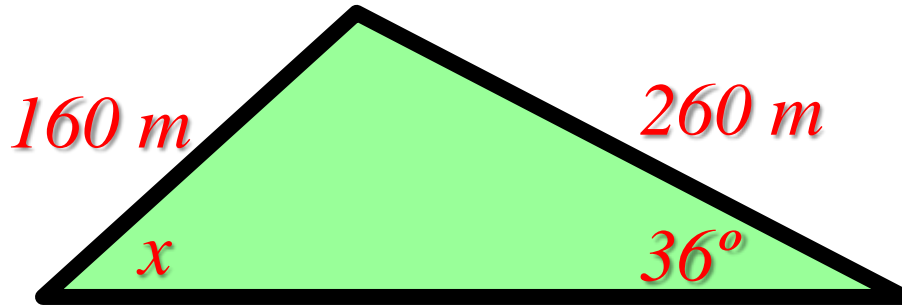
6) Find the missing side of the following triangle with the given information:





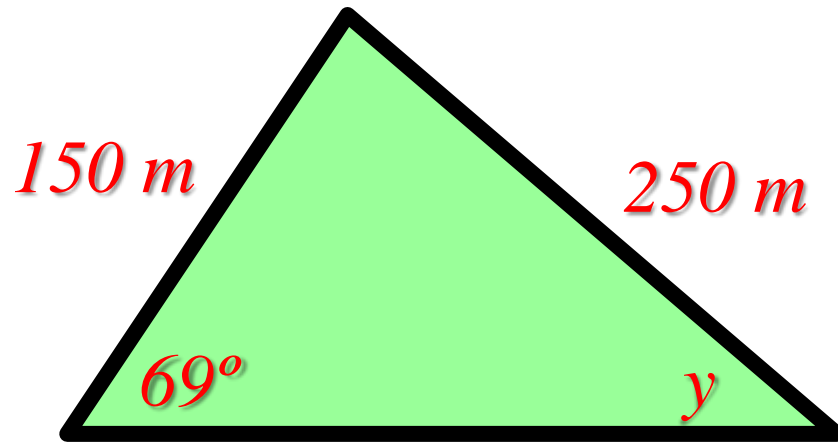
## Finding Missing Angles in Non-Right Triangles

7) Find the missing angle of the following triangle with the given information:

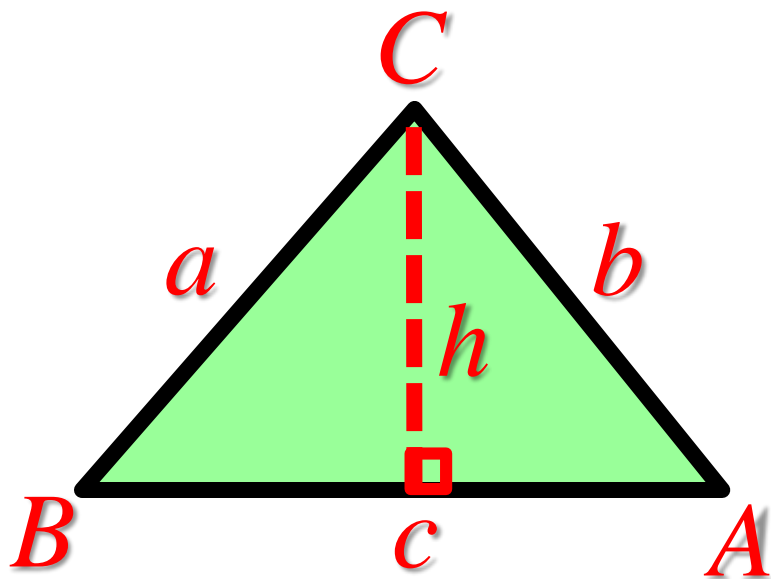


## Finding Missing Angles in Non-Right Triangles

8) Find the missing angle of the following triangle with the given information:



# Proof of the Law of Sines



$$\sin B = \frac{h}{a} \quad \Rightarrow \quad a \sin B = h$$

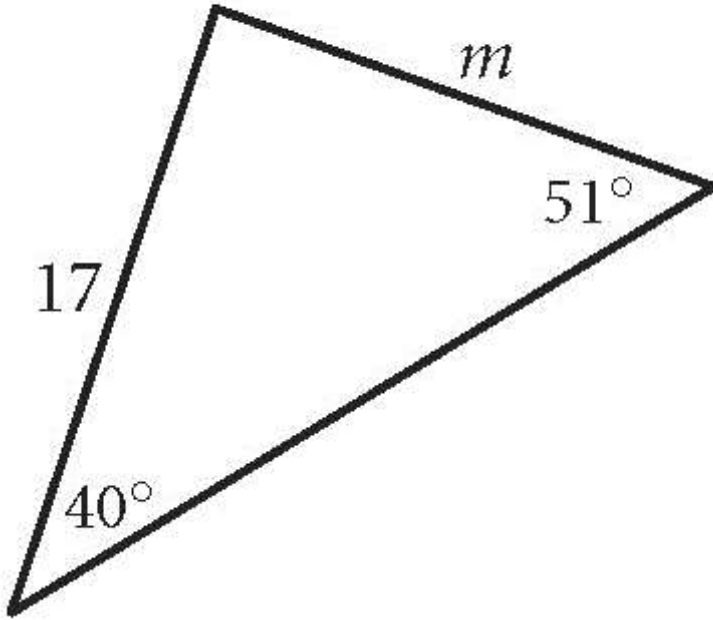
$$\sin A = \frac{h}{b} \quad \Rightarrow \quad b \sin A = h$$

$$\Rightarrow \quad a \sin B = b \sin A$$

$$\frac{\sin B}{b} = \frac{\sin A}{a}$$

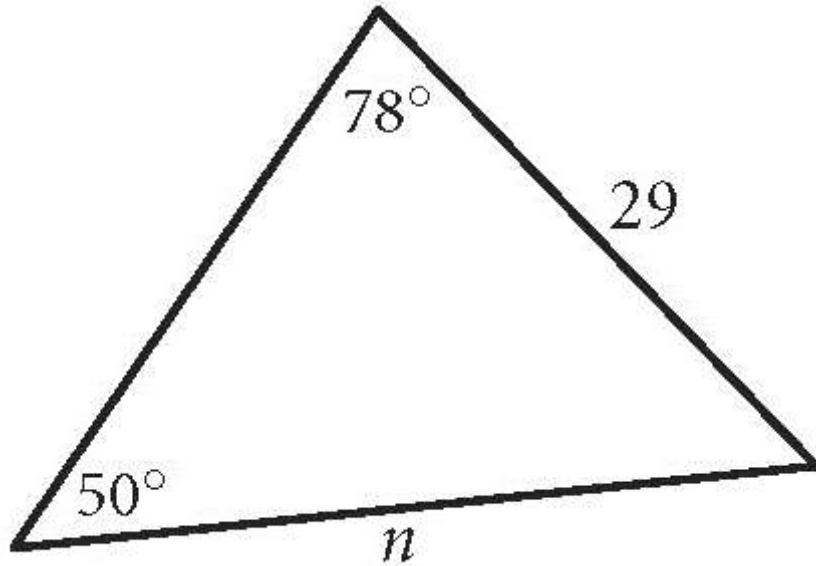
# Practice

9)  $m \approx$  \_\_\_\_\_



# Practice

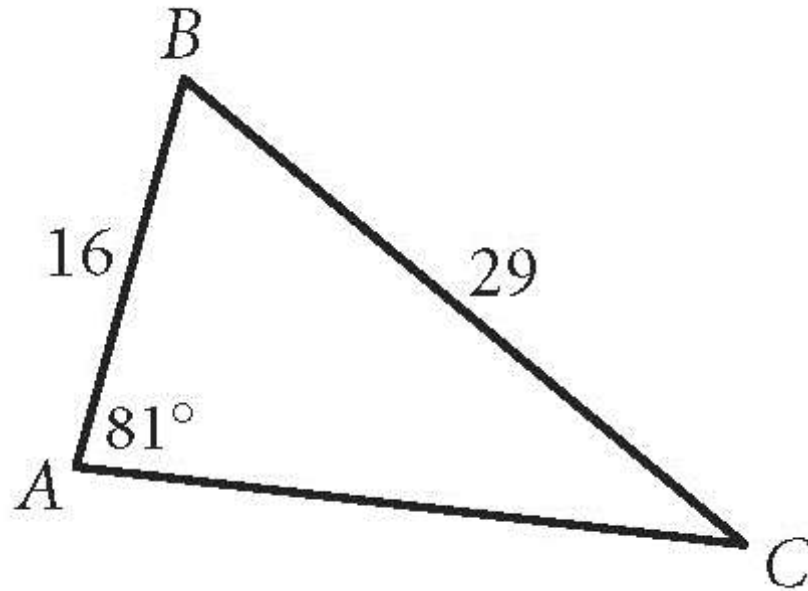
10)  $n \approx$  \_\_\_\_\_



# Practice

11)  $m\angle B \approx$  \_\_\_\_\_

$m\angle C \approx$  \_\_\_\_\_



# Practice

12)

$$m\angle P \approx \underline{\hspace{2cm}}$$

$$m\angle Q \approx \underline{\hspace{2cm}}$$

