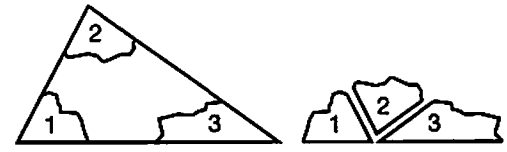
Name _____ Date _____ Class _____

# SKILL 6: Triangles

You can tear the corners from a triangle and rearrange them as shown in the diagram. Notice the torn-off pieces form a straight line across the bottom. The measures of these three angles total 180°, the measure of a straight angle. This illustrates an important property of triangles:



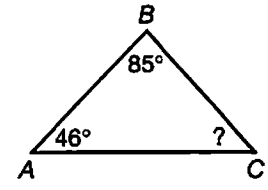

$m\angle 1 + m\angle 2 + m\angle 3 = 180°$

**The sum of the angle measures of any triangle is 180°.**
You can use this fact to find unknown angle measures.

## Example 1

**Find the measure of $\angle C$.**

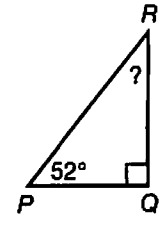
$46° + 85° + m\angle C = 180°$
$131° + m\angle C = 180°$
$m\angle C = 180° - 131°$ Subtract 131°
$m\angle C = 49°$ from each side.




## Example 2

**Find the measure of $\angle R$.**

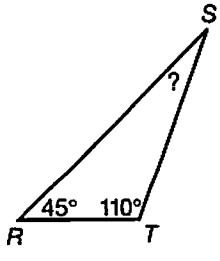
$\angle Q$ is a right angle, so $m\angle Q = 90°$.
$52° + 90° + m\angle R = 180°$
$142° + m\angle R = 180°$
$m\angle R = 180° - 142°$ Subtract 142°
$m\angle R = 38°$ from each side.




## Guided Practice

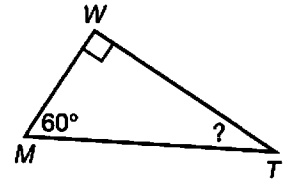
**Find the unknown angle measures.**

**1.**




$m\angle S + 45° + \_\_\_\_\_ = 180°$
$m\angle S + 155° = 180°$
$m\angle S = 180° - 155°$
$m\angle S = \_\_\_\_\_$

**2.**




$60° + 90° + m\angle T = 180°$
$150° + m\angle T = \_\_\_\_\_$
$m\angle T = 180° - 150°$
$m\angle T = \_\_\_\_\_$

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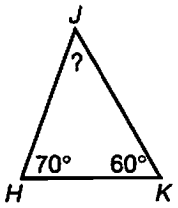
## SKILL 6: Practice

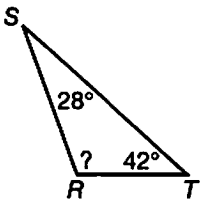
**Find the unknown angle measures.**

**1.**



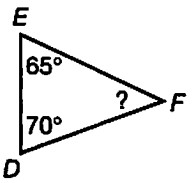

$m\angle J =$ _____

**2.**



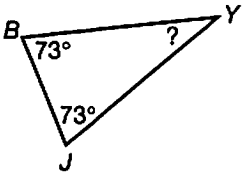

$m\angle R =$ _____

**3.**



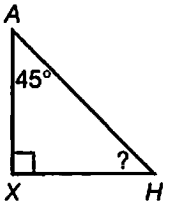

$m\angle F =$ _____

**4.**



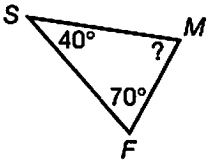

$m\angle Y =$ _____

**5.**



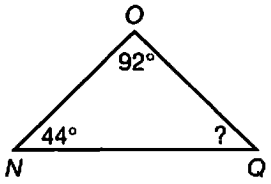

$m\angle H =$ _____

**6.**



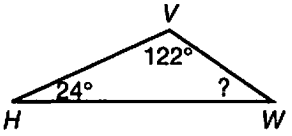

$m\angle M =$ _____

**7.**



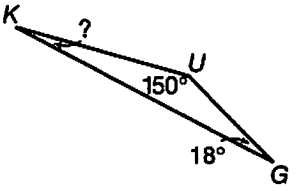

$m\angle Q =$ _____

**8.**




$m\angle W =$ _____

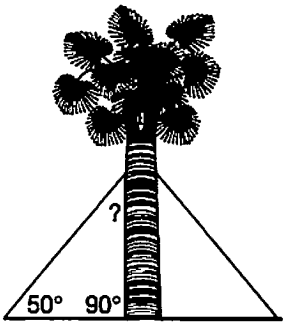
**9.**




$m\angle K =$ _____

**10.** Wires are used to support a young tree, as shown. One of the wires makes a 50° angle with the ground. What is the measure of the angle the wire makes with the tree?

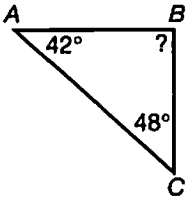
_____





**11.** Find the measure of $\angle B$.

*Skill 6*




**A** 132° **C** 100°
**B** 80° **D** 90°

**12.** An angle is formed by rays $\overrightarrow{AB}$ and $\overrightarrow{AC}$. Which is not a name for this angle?

*Skill 1*

**F** $\angle ABC$ **H** $\angle CAB$
**G** $\angle BAC$ **J** $\angle A$