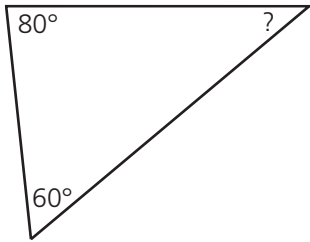


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The measures of the angles in a triangle always add up to  $180^\circ$ . If you know the measures of two of the angles, use the formula  $x + y + z = 180$  to find the measure of the third angle.



What is the missing angle measure?

Substitute  $x = 60$  and  $y = 80$  into the formula  $x + y + z = 180$ , and solve for  $z$ :

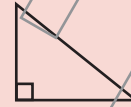
$$60 + 80 + z = 180$$

$$140 + z = 180$$

$$z = 40$$

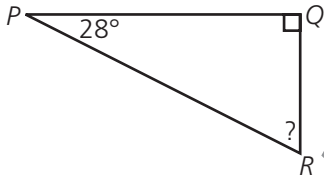
The missing angle measure is  $40^\circ$ .

A **right angle** measures  $90^\circ$ . It is shown in a triangle by a square corner.



Read each problem. Circle the letter of the best answer.

1 What is the measure of  $\angle R$  in this triangle?



- A  $62^\circ$
- B  $72^\circ$
- C  $118^\circ$
- D  $152^\circ$

The small square mark shows that  $\angle Q$  is a right angle, so its measure is  $90^\circ$ . Substitute  $x = 28$  and  $y = 90$  into the formula  $x + y + z = 180$ , and solve for  $z$ :  $28 + 90 + z = 180 \rightarrow 118 + z = 180 \rightarrow z = 62$ . The correct answer is A.

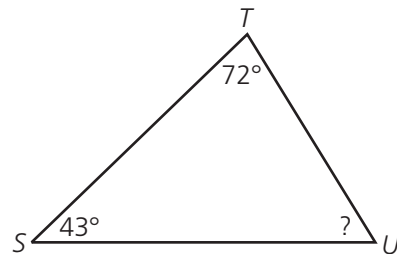
2 A triangle has two angles that measure  $65^\circ$ . What is the measure of the third angle?

- A  $40^\circ$
- B  $50^\circ$
- C  $55^\circ$
- D  $65^\circ$

3 Which could be the measures of the three angles of a triangle?

- A  $30^\circ, 30^\circ, 60^\circ$
- B  $30^\circ, 60^\circ, 60^\circ$
- C  $30^\circ, 60^\circ, 90^\circ$
- D  $30^\circ, 90^\circ, 90^\circ$

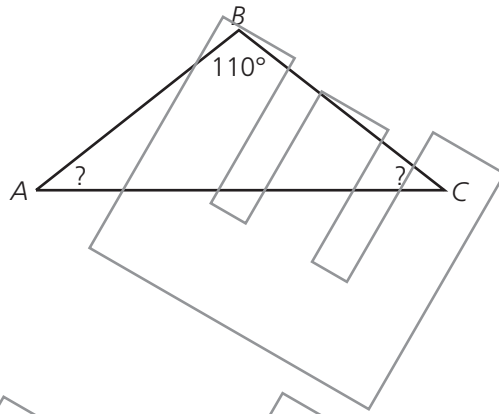
4 What is the measure of  $\angle U$  in this triangle?



- A  $29^\circ$
- B  $61^\circ$
- C  $65^\circ$
- D  $85^\circ$

Read each problem. Write your answers.

- 5 In the triangle at the right,  $\angle A$  and  $\angle C$  have equal measures.



- A What is the measure of  $\angle A$ ?

Answer: \_\_\_\_\_

- B Explain how you found your answer.

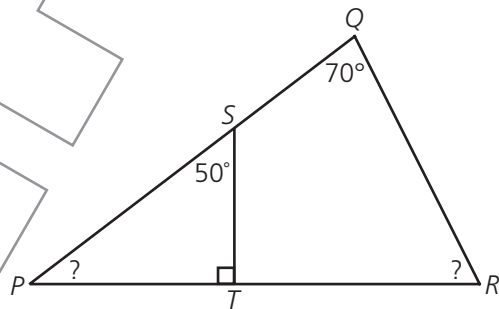
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- 6 In the diagram at the right,  $\angle PST$  measures  $50^\circ$ ,  $\angle Q$  measures  $70^\circ$ , and  $\angle PTS$  is a right angle.



- A What is the measure of  $\angle P$ ?

Answer: \_\_\_\_\_

- B What is the measure of  $\angle R$ ?

Answer: \_\_\_\_\_

- C Explain how you found your answers.

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