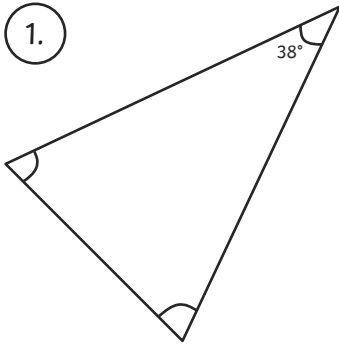


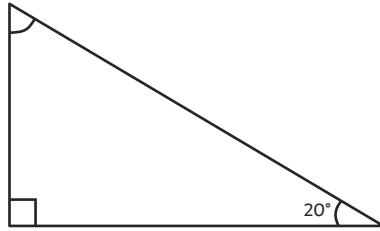
# Calculating Angles in a Triangle

Using your knowledge of known facts about triangles, calculate the size of the missing angles in the triangles below. Angles are not to scale.

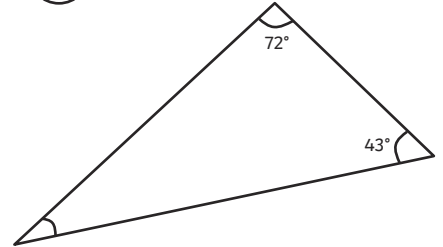
1.



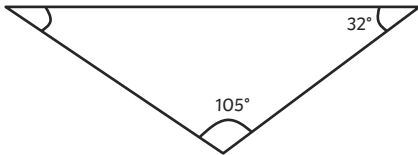
2.



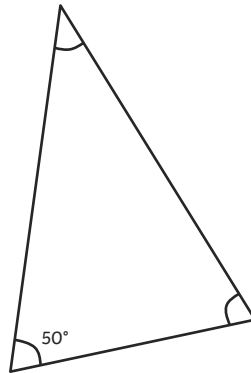
3.



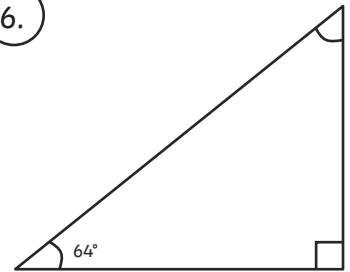
4.



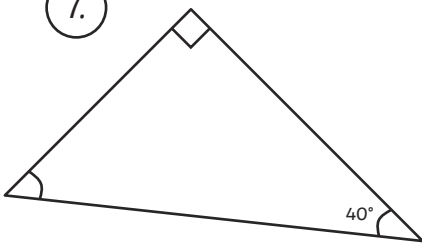
5.



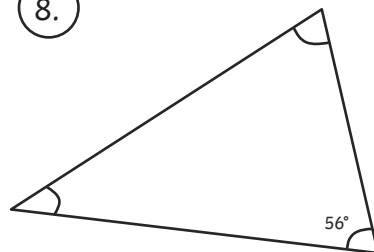
6.



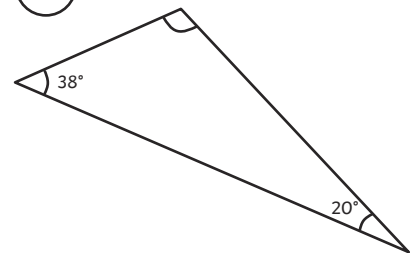
7.



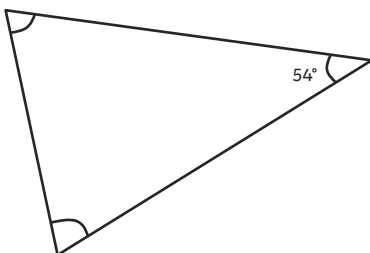
8.



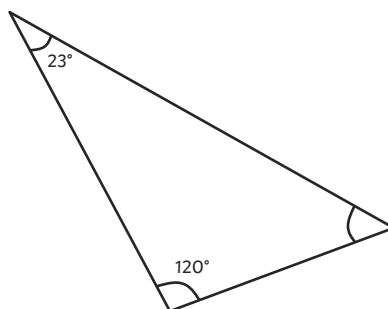
9.



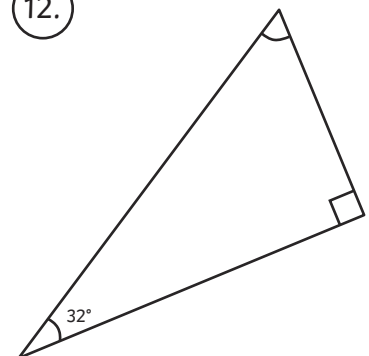
10.



11.



12.



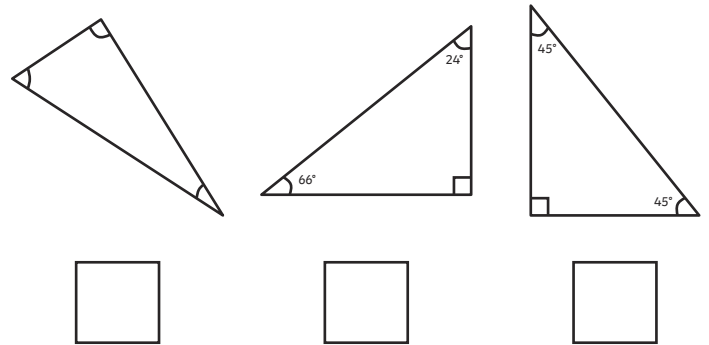
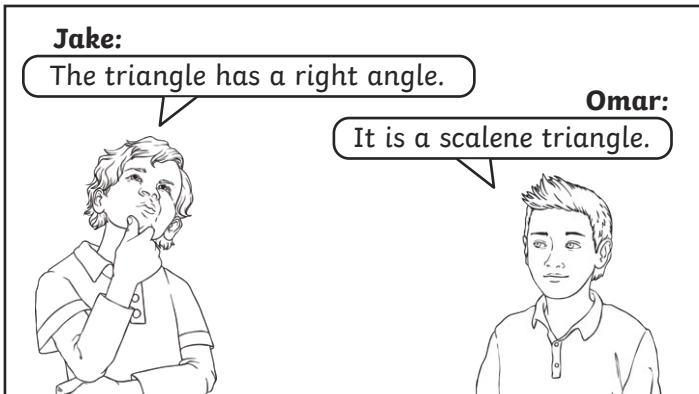
## Calculating Angles in a Triangle

1. Ellie has measured the three angles in a triangle. One angle is  $61^\circ$  and another is  $77^\circ$ . What is the measurement of the third angle?
- 

2. Jake, Omar and Saskija are playing a game. Jake and Omar must give Saskija clues to help her find the triangle that matches theirs.

Which triangle should Saskija choose?

Angles are not to scale.



3. Dara is trying to solve a riddle. Her only clue is that the ratio of the three angles in the mystery triangle is 2:3:4. Calculate the size of the angles and write them below from smallest to largest:
- 

4. Shaali, Caitlyn and Aleisha are investigating scalene triangles. They have each been given a scalene triangle with one  $52^\circ$  angle labelled for them and two missing angles that they must measure.

My missing angles are  $32^\circ$  and  $96^\circ$ .



**Shaali**

My missing angles are  $27^\circ$  and  $120^\circ$ .



**Caitlyn**

My missing angles are  $28^\circ$  and  $100^\circ$ .

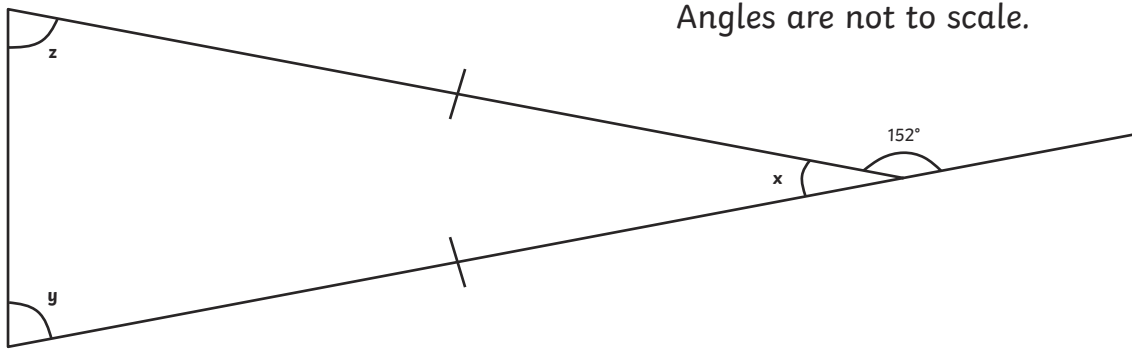


**Aleisha**

One of them has made a mistake. Who was it? \_\_\_\_\_

## Calculating Angles in a Triangle

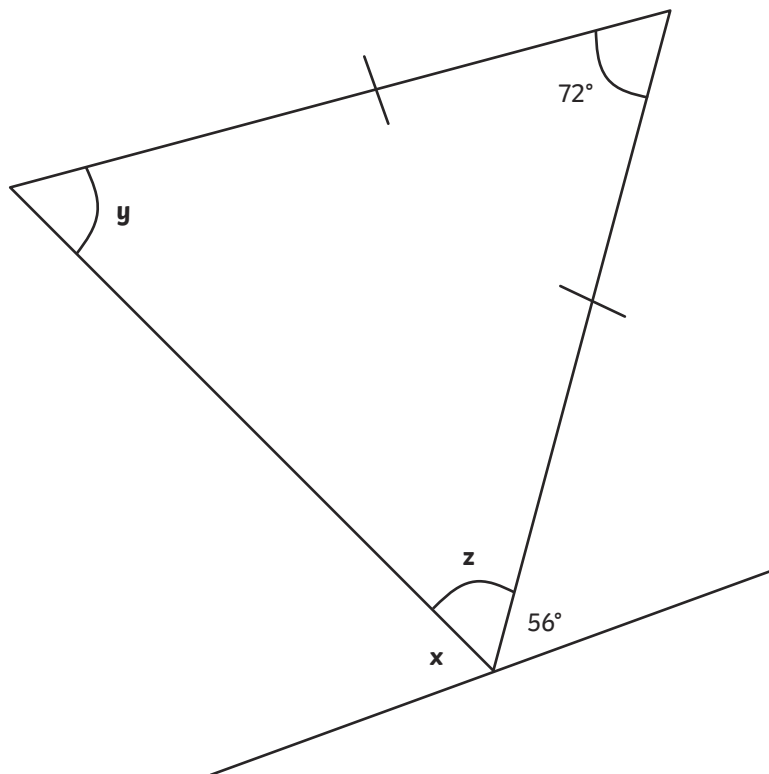
5. Find the size of all of the angles in the triangle.



$x =$  \_\_\_\_\_  $^{\circ}$        $y =$  \_\_\_\_\_  $^{\circ}$        $z =$  \_\_\_\_\_  $^{\circ}$

6. Calculate the missing angles.

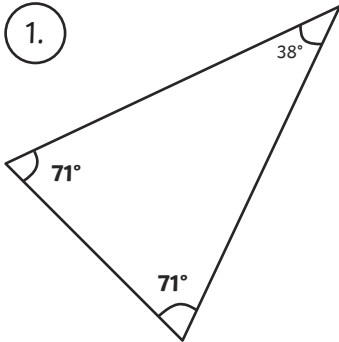
Angles are not to scale.



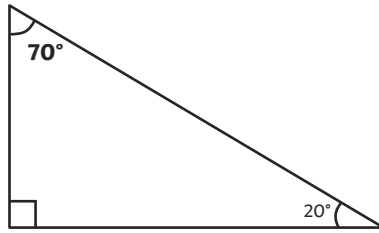
$x =$  \_\_\_\_\_  $^{\circ}$        $y =$  \_\_\_\_\_  $^{\circ}$        $z =$  \_\_\_\_\_  $^{\circ}$

# Calculating Angles in a Triangle **Answers**

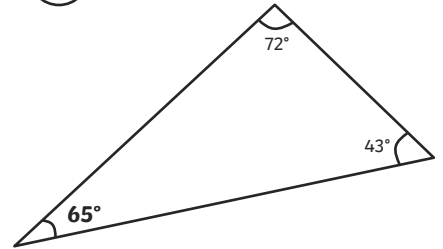
1.



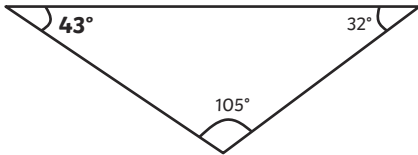
2.



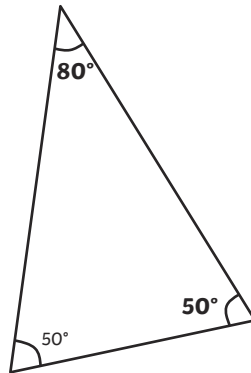
3.



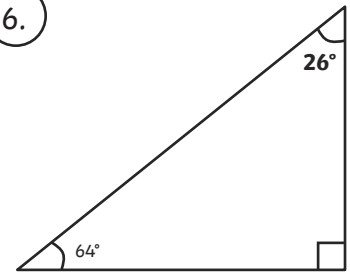
4.



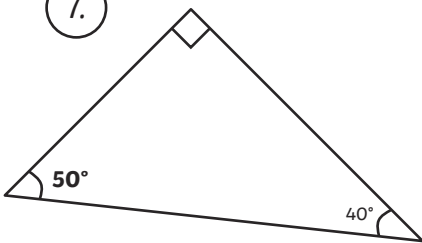
5.



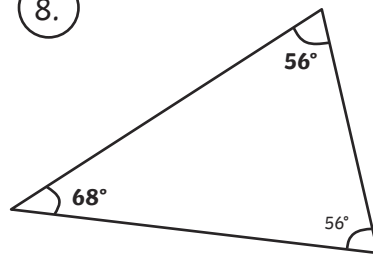
6.



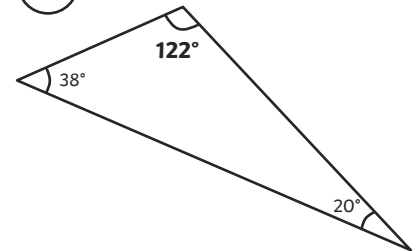
7.



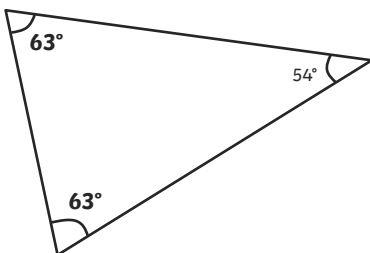
8.



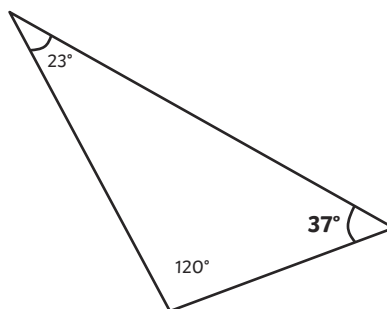
9.



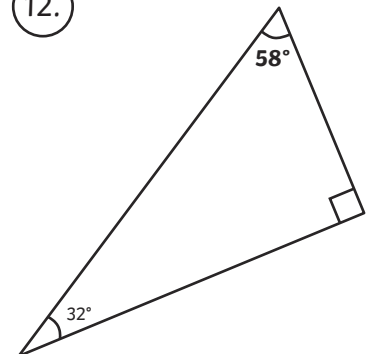
10.



11.



12.



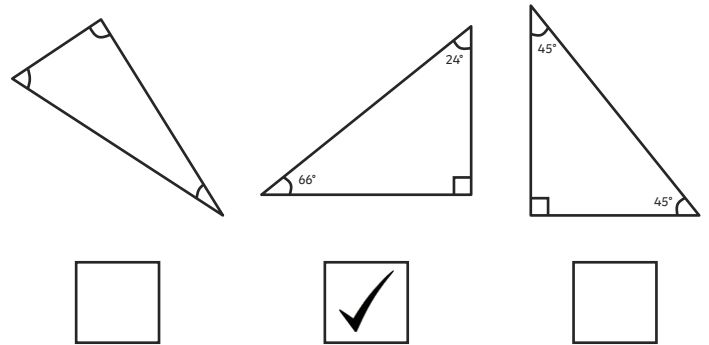
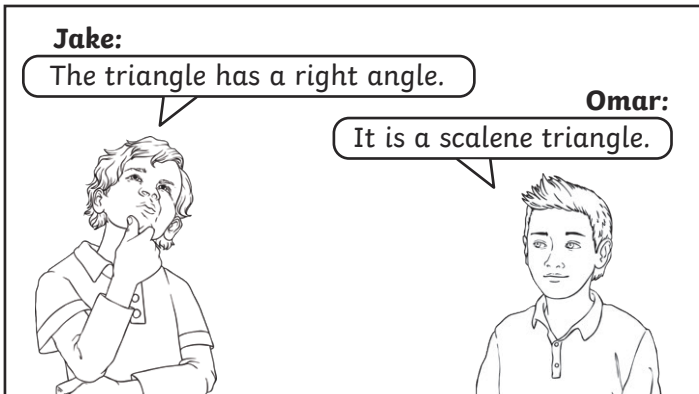
## Calculating Angles in a Triangle **Answers**

1. Ellie has measured the three angles in a triangle. One angle is  $61^\circ$  and another is  $77^\circ$ . What is the measurement of the third angle?

**$42^\circ$**

2. Jake, Omar and Saskija are playing a game. Jake and Omar must give Saskija clues to help her find the triangle that matches theirs.

Which triangle should Saskija choose?



3. Dara is trying to solve a riddle. Her only clue is that the ratio of the three angles in the mystery triangle is 2:3:4. Calculate the size of the angles and write them below from smallest to largest:

**$40^\circ$**

**$60^\circ$**

**$80^\circ$**

4. Shaali, Caitlyn and Aleisha are investigating scalene triangles. They have each been given a scalene triangle with one  $52^\circ$  angle labelled for them and two missing angles that they must measure.

My missing angles are  $32^\circ$  and  $96^\circ$ .

**Shaali**

My missing angles are  $27^\circ$  and  $120^\circ$ .

**Caitlyn**

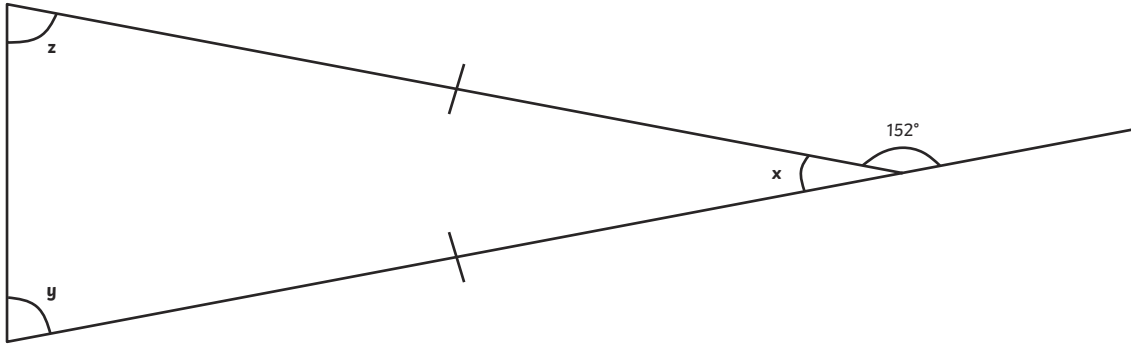
My missing angles are  $28^\circ$  and  $100^\circ$ .

**Aleisha**

One of them has made a mistake. Who was it?

**Caitlyn has made a mistake. (Her angles add up to more than  $180^\circ$ .)**

5. Find the size of all of the angles in the triangle.

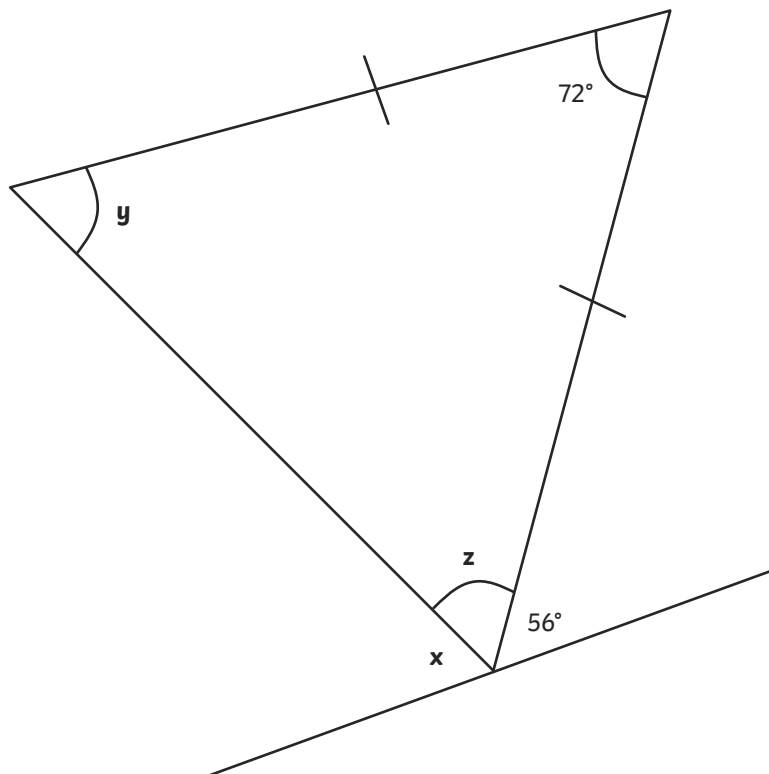


$x = \underline{28^\circ}$

$y = \underline{76^\circ}$

$z = \underline{76^\circ}$

6. Calculate the missing angles.



$x = \underline{70^\circ}$

$y = \underline{54^\circ}$

$z = \underline{54^\circ}$