

# Y6 Angles In Shapes

KS2 Y6 Maths · Follows the national curriculum

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

## 1. Worked example

**A triangle has angles of  $65^\circ$  and  $48^\circ$ . Find the third angle.**

Step 1 · Angles in a triangle add to  $180^\circ$

$$65 + 48 = 113$$

Step 2 ·  $180 - 113$

$$67$$

**Answer:  $67^\circ$**

Check:  $65 + 48 + 67 = 180$  ✓

## 2. Now try one with the steps

**An isosceles triangle has a top angle of  $40^\circ$ . Find the two base angles.**

Step 1 · The base angles are equal

Step 2 · Share between two angles

**Answer:**

## 3. Practice

Have a go at each one. There is space underneath to work it out.

1. A triangle has angles of  $50^\circ$  and  $60^\circ$ . Find the third angle.

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2. A right-angled triangle has another angle of  $35^\circ$ . Find the third angle.

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3. A triangle has angles of  $112^\circ$  and  $29^\circ$ . Find the third angle.

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4. What is each angle of an equilateral triangle?

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5. An isosceles triangle has two base angles of  $65^\circ$ . What is the third angle?

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6. An isosceles triangle has a top angle of  $100^\circ$ . What is each base angle?

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7. A quadrilateral has angles of  $90^\circ$ ,  $90^\circ$  and  $120^\circ$ . Find the fourth angle.

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8. A quadrilateral has angles of  $75^\circ$ ,  $105^\circ$  and  $80^\circ$ . Find the fourth angle.

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9. One angle of a parallelogram is  $70^\circ$ . What are the other three angles?

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10. What do the angles of a pentagon add up to?

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11. What is each angle of a regular pentagon?

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12. What is each angle of a regular octagon?

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13. What is each angle of a regular decagon (10 sides)?

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14. A kite has angles of  $120^\circ$  and  $70^\circ$ . Its other two angles are equal. What is each of them?

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15. A triangle's angles are  $x$ ,  $2x$  and  $3x$ . Find all three angles.

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#### 4. Before you hand it in

Using  $360^\circ$  for the angles in a triangle.

Triangle:  $180^\circ$ . Quadrilateral:  $360^\circ$  (it splits into 2 triangles).

**Finding the base angles of an isosceles triangle with a  $40^\circ$  top angle as  $(180 - 40) = 140^\circ$  each.**

$140^\circ$  is the total for both base angles, so each is  $70^\circ$ .

**Working out the angle sum of a hexagon as  $6 \times 180^\circ$ .**

From one corner, a polygon with  $n$  sides splits into  $n - 2$  triangles:  $4 \times 180^\circ = 720^\circ$ .