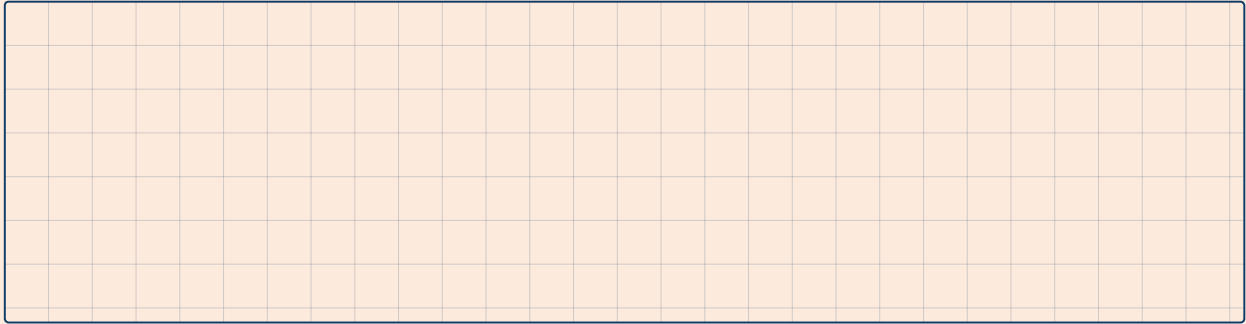


FINDING THE MISSING ANGLE

- 1 Split the quadrilateral into two triangles by drawing one diagonal.
- 2 Each triangle sums to 180 degrees so together they make $2 \times 180 = 360$ degrees.
- 3 Add the three known angles then subtract from 360 to find the fourth.

WARM-UP

Sketch each quadrilateral in the space below and work out the angles.



1. Sketch a rectangle and mark its four angles. Write their total.
2. Sketch a quadrilateral with angles of 90° , 80° and 105° . Work out the fourth angle.
3. Sketch a quadrilateral with angles of 120° , 60° and 70° . Work out the fourth angle.

PRACTICE

- 1 A builder makes a table frame with three corners of **110 degrees** each. What must the fourth corner measure? _____
- 2 A carpenter splits a wooden quadrilateral into two triangles while building a frame. Three of its corners measure **100**, **75** and **85 degrees**. What is the fourth? _____
- 3 A maker constructs a kite shape with angles **130**, **50** and **130 degrees**. Find the fourth angle for the build. _____
- 4 During construction of a shed wall the quadrilateral has angles **115**, **55** and **65 degrees**. What is the last angle needed? _____

? ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

- | | |
|--|---|
| a. The interior angles of every quadrilateral add to exactly 360 degrees. ☐ | c. Splitting a quadrilateral with one diagonal shows why the angles total 360 degrees. ☐ |
| b. A quadrilateral can have angles that add to more than 360 degrees. ☐ | d. A quadrilateral has four right angles. ☐ |

