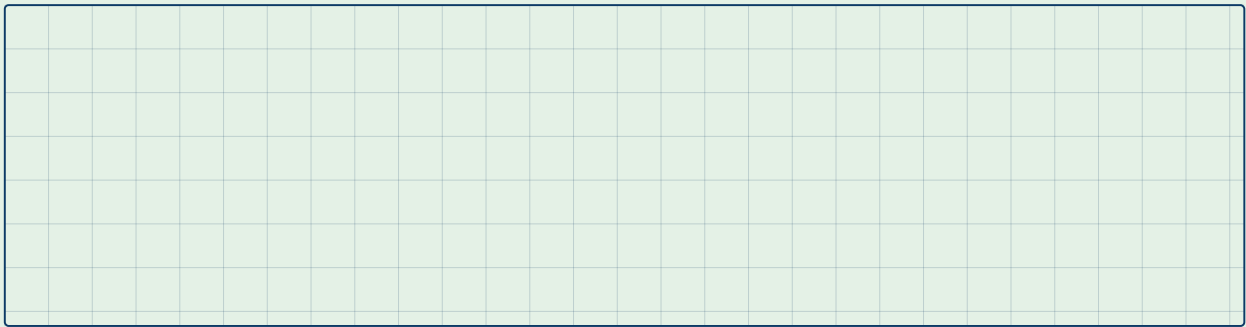


SAME AREA, DIFFERENT PERIMETERS

- 1 Start with a long thin strip that is 1 square tall and 6 squares long.
- 2 Count the squares inside: area = 6 squares.
- 3 Add the sides all the way round: $1 + 6 + 1 + 6 = 14$ units for the perimeter.
- 4 Now make a chunky block 2 squares tall and 3 squares long.
- 5 Count inside: area is also 6 squares.
- 6 Add its sides: $2 + 3 + 2 + 3 = 10$ units, so the chunky shape has the shorter way around.

WARM-UP

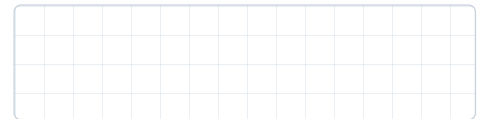
Use the squared working space to draw the rectangles and compare area with perimeter.



1. Draw a 2 by 4 rectangle and a 1 by 6 rectangle then label each area and each perimeter
2. Draw two different rectangles that each cover exactly 8 squares and ring the one with the longer perimeter
3. Draw a 3 by 4 and a 2 by 6 (each using 12 tiles) and write which has the longer way around

PRACTICE

- 1 You build a small platform base that is 5 squares tall and 7 squares long. How many square tiles cover the flat space?
- 2 In your building kit you make two different rectangles that each use exactly 8 square tiles. Ring the one with the longer perimeter.

**? ALWAYS, SOMETIMES, NEVER**

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

- | | |
|---|---|
| a. Two rectangles with the same area must have the same perimeter. <input type="text"/> | c. A longer thinner rectangle has a bigger perimeter than a squarer one with equal area. <input type="text"/> |
| b. If you rearrange the same tiles into a new rectangle the area stays the same. <input type="text"/> | d. Perimeter gets larger whenever area gets larger. <input type="text"/> |

REFLECT

Can two shapes share the same area but different perimeters? What did you notice?