

Reasoning and Problem Solving

Step 4: Comparing Area

National Curriculum Objectives:

Mathematics Year 4: (4M7b) [Find the area of rectilinear shapes by counting squares](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Use two clues and an image of Shape A to compare and find the possible area of Shape B on a grid. Clues reference larger and smaller.

Expected Use two clues and an image of Shape A to compare and find the possible area of Shape B on a grid. Clues reference multiples in addition to larger and smaller.

Greater Depth Use two clues and an image of Shape A to compare and find the possible area of Shape B on a grid. Shapes use whole, quarter, half and three-quarter squares and clues reference whole and half squares.

Questions 2, 5 and 8 (Problem Solving)

Developing Complete the drawing of a rectangle, with a smaller or bigger area than a given value, on a grid. One side of the shape provided.

Expected Draw a rectilinear shape, with a smaller or bigger area than a given value, on a grid.

Greater Depth Draw a rectilinear shape, with a smaller or bigger area than a given value, using the stated number of whole or half squares.

Questions 3, 6 and 9 (Reasoning)

Developing Explain which statement is correct when comparing the area of squares and rectangles.

Expected Explain which statement is correct when comparing the area of rectilinear shapes.

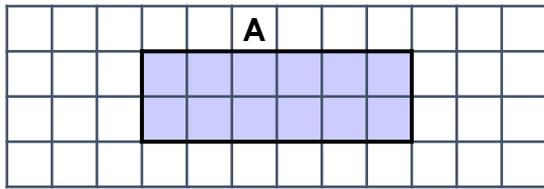
Greater Depth Explain which statement is correct when comparing the area of rectilinear shapes. Shapes make use of whole, half and three-quarter squares.

More [Year 4 Area](#) resources.

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Comparing Area

1a. Using the clues below, give the possible area of shape B.



A has a larger area than B.

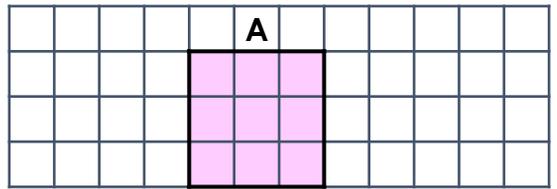
The area of B is larger than 6 squares.



PS

Comparing Area

1b. Using the clues below, give the possible area of shape B.



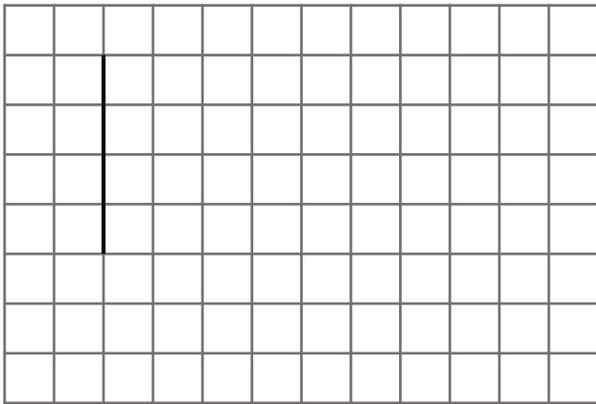
B has a larger area than A.

The area of B is smaller than 12 squares.



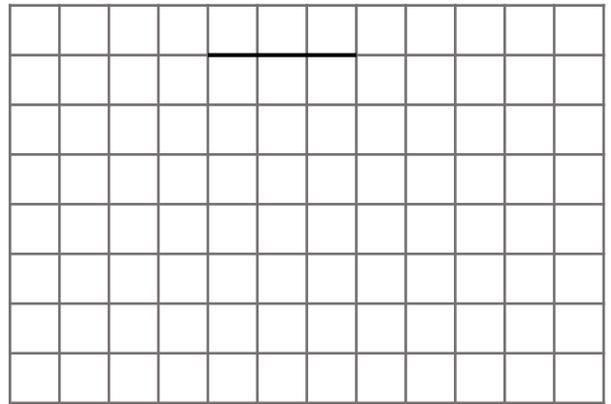
PS

2a. Complete the rectangle so that it has an area greater than 8 squares.



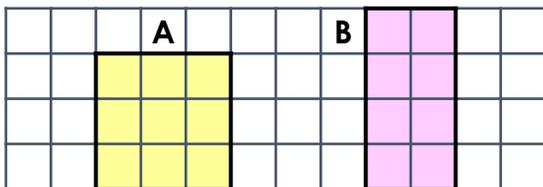
PS

2b. Complete the rectangle so that it has an area smaller than 10 squares.



PS

3a. Becky and Greg are comparing the area of two shapes.



Shape A has a larger area.

Becky

Shape B has a larger area.



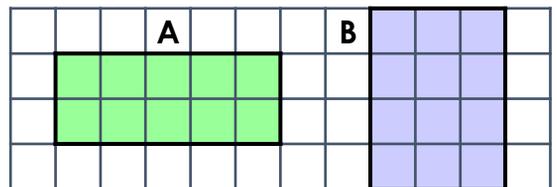
Greg

Who is correct? Prove it.



R

3b. Amy and Ben are comparing the area of two shapes.



Shape A has a larger area.

Amy

Shape A has a smaller area.



Ben

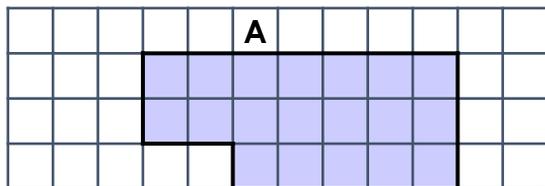
Who is correct? Prove it.



R

Comparing Area

4a. Using the clues below, give the possible area of shape B.



The area of B is multiple of 4.

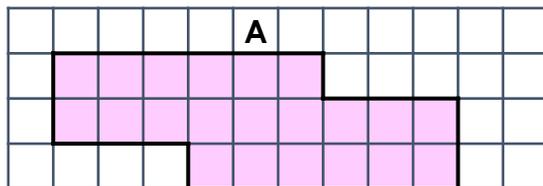
B is larger than A but its area is less than 25 squares.



PS

Comparing Area

4b. Using the clues below, give the possible area of shape B.



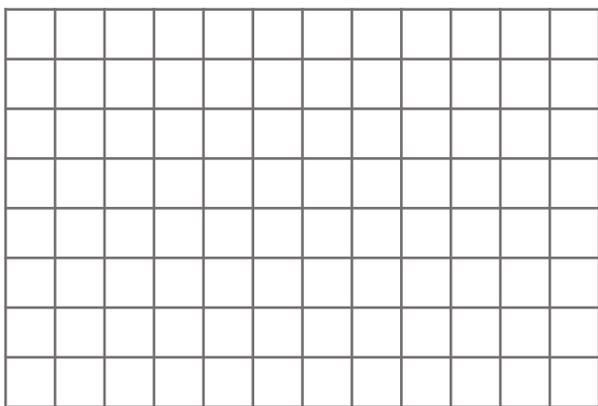
B is a rectangle with at least one side 7 squares long.

B's area is no larger than A.



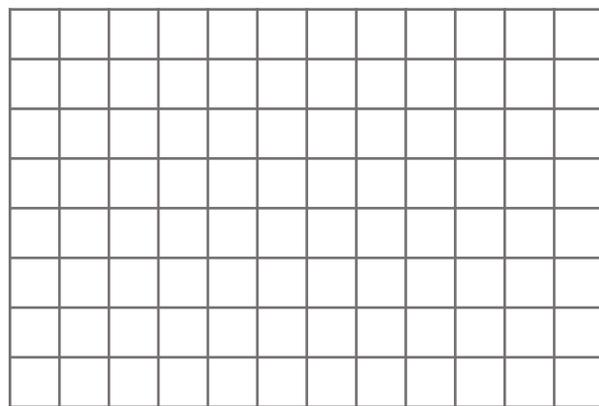
PS

5a. Draw a rectilinear shape with an area greater than 12 squares and six sides.



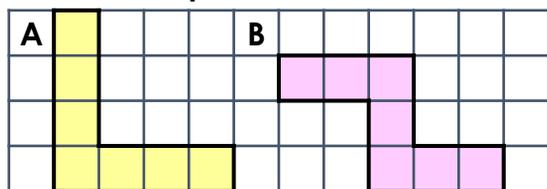
PS

5b. Draw a rectilinear shape with an area smaller than 20 squares and fewer than eight sides.



PS

6a. Anna and Simon are comparing the area of two shapes.



Shape B has a larger area.



Anna

The shapes have the same area.



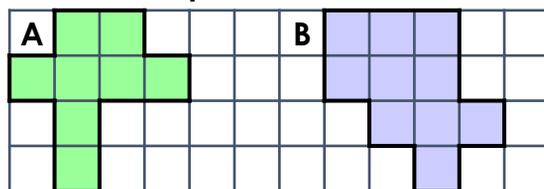
Simon

Who is correct? Prove it.



R

6b. Jess and Darren are comparing the area of two shapes.



Shape A has a smaller area.



Jess

Shape A has a larger area.



Darren

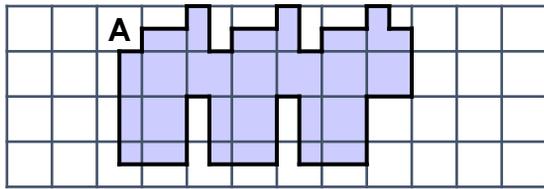
Who is correct? Prove it.



R

Comparing Area

7a. Using the clues below, give the possible area of shape B.



B has 8 whole squares.

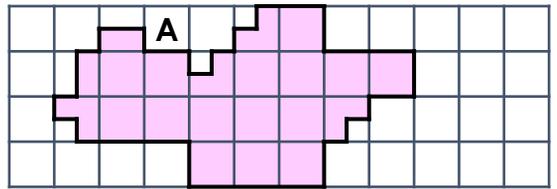
It has 4 more half squares when compared to A.



PS

Comparing Area

7b. Using the clues below, give the possible area of shape B.



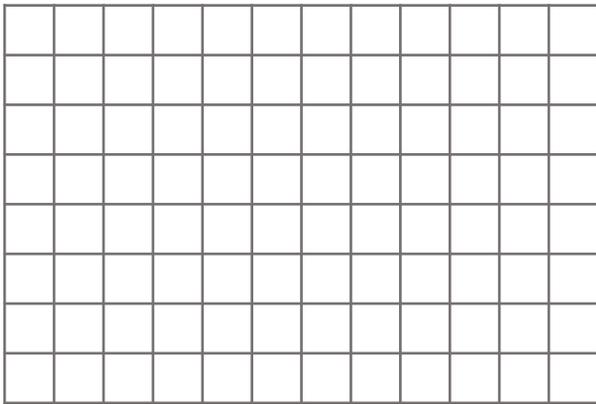
B has more whole squares when compared to A but less than 20.

B's area has 6 half squares.



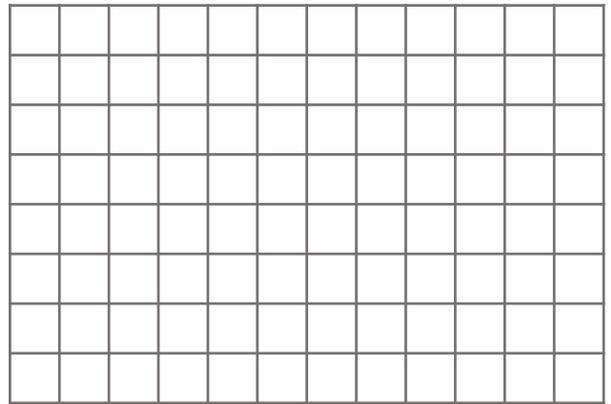
PS

8a. Draw a rectilinear shape with fewer than 10 sides and an area between 24 and 28 squares, using 18 whole squares.



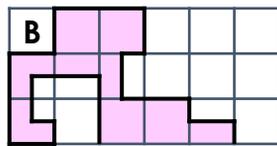
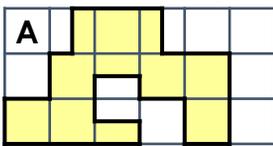
PS

8b. Draw a rectilinear shape with more than 8 sides and an area between 26 and 32 squares, using 10 half squares.



PS

9a. Kath and Luke are comparing the area of two shapes.



Shape A has a larger area.

Kath

Shape A has a smaller area.



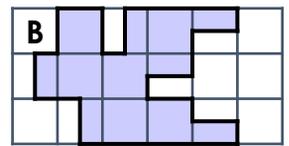
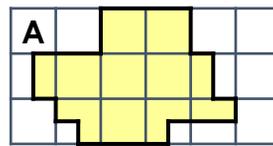
Luke

Who is correct? Prove it.



R

9b. Sara and Imran are comparing the area of two shapes.



Shape A has a smaller area.

Sara

The shapes have the same area.



Imran

Who is correct? Prove it.



R

Reasoning and Problem Solving Comparing Area

Developing

- 1a. Accept any answer between 7 and 11 squares.
- 2a. Accept any rectangle with an area greater than 8 squares.
- 3a. Becky is correct. A has an area of 9 squares and B has an area of 8 squares.

Expected

- 4a. B can be 20 or 24 squares.
- 5a. Accept any six-sided, rectilinear shape with an area greater than 12 squares.
- 6a. Simon is correct. Both shapes have an area of 7 squares.

Greater Depth

- 7a. B is 16 squares: 8 whole squares and 16 half squares.
- 8a. Accept any rectilinear shape with fewer than 10 sides and an area covering only 18 whole squares with the remaining area made up of half, quarter and three-quarter squares.
- 9a. Kath is correct. A has an area of 9 squares and B has an area of 7 squares.

Reasoning and Problem Solving Comparing Area

Developing

- 1b. B can be 10 or 11 squares.
- 2b. Accept any rectangle with an area smaller than 10 squares.
- 3b. Ben is correct. A has an area of 10 squares and B has an area of 12 squares.

Expected

- 4b. B can be 7, 14 or 21 squares.
- 5b. Accept any rectilinear shape with an area smaller than 20 squares that is fewer than 8 sides.
- 6b. Jess is correct. A has an area of 8 squares and B has an area of 10 squares.

Greater Depth

- 7b. Accept any answer between 19 and 22 squares.
- 8b. Accept any rectilinear shape with more than 8 sides and an area covering 10 half squares with the remaining area made up of whole, quarter and three-quarter squares.
- 9b. Imran is correct. Both shapes have an area of 9 squares.