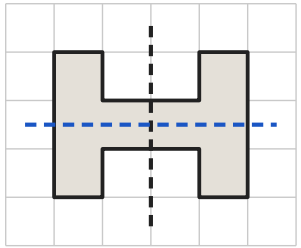
# Line symmetry and rotational symmetry

ANSWERS

**1**

Draw all the lines of symmetry.



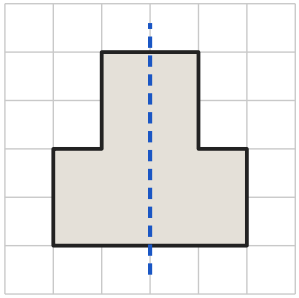
down the middle: match ✓

across the middle: match ✓

Number of lines of symmetry 2

**2**

Draw all the lines of symmetry.



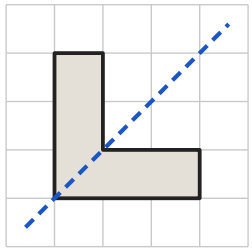
down the middle: match ✓

across the middle: no match

Number of lines of symmetry 1

**3**

Draw all the lines of symmetry.
Check the diagonals too.

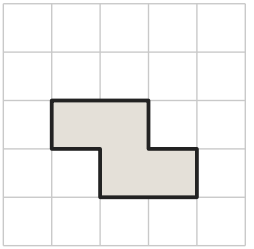


diagonals: one matches

Number of lines of symmetry 1

**4**

Draw all the lines of symmetry.

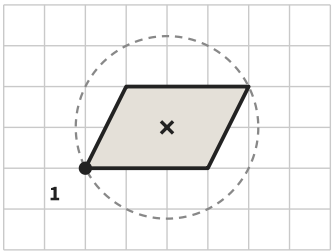


every fold: no match

Number of lines of symmetry 0

**5**

Find the order of rotational symmetry.



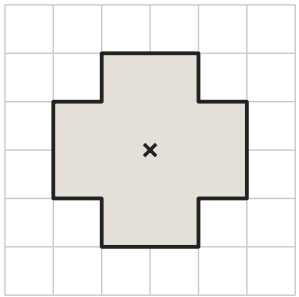

half a turn: it fits ✓

places in a full turn: 2

Order of rotational symmetry 2

**6**

Find the order of rotational symmetry.

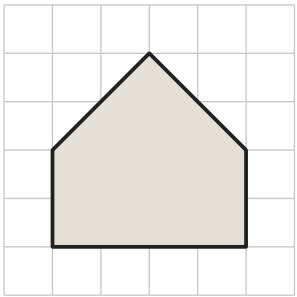


places in a full turn: 4

Order of rotational symmetry 4

**7**

Find the order of rotational symmetry.

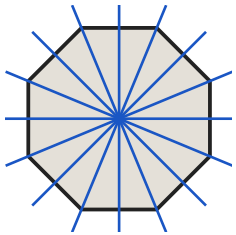


it only fits: at the start

Order of rotational symmetry 1

**8**

This is a regular octagon. Write down its number of lines of symmetry and its order of rotational symmetry.



lines of symmetry: 8

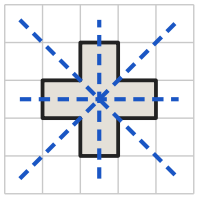
order: 8

# Line symmetry and rotational symmetry *further practice*

ANSWERS

**9**

Draw all the lines of symmetry of this shape.



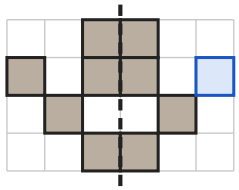
down, across

and both diagonals

**Answer** 4 lines

**10**

Shade one more square so that the dashed line is a line of symmetry.



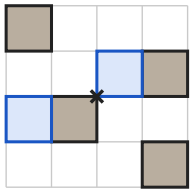
each square needs its mirror image

the same distance the other side

**Answer** 1 square shaded

**11**

Shade two more squares so that the pattern has rotational symmetry of order 2.



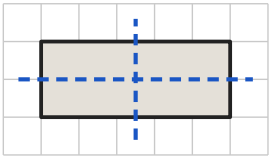
each square's partner: half a turn

round the centre, the other side

**Answer** 2 squares shaded

**12**

Nadia says this rectangle has 4 lines of symmetry, because she counted the diagonals. Is she right? Explain.



a diagonal fold: the corners don't meet

only down the middle and across

**Answer** No, 2 lines

**13**

A regular polygon has 7 lines of symmetry. How many sides does it have? What is its order of rotational symmetry?

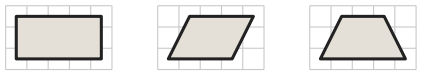
regular: as many lines as sides

it fits at every corner: order 7

**Answer** 7 sides, order 7

**14**

Which of these shapes has rotational symmetry of order 2 but no lines of symmetry?



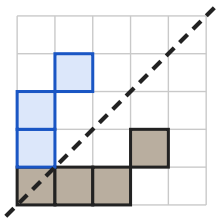

A: 2 lines, order 2; C: 1 line, order 1

B: no lines, but order 2

**Answer** B

**15**

Shade three more squares so that the dashed diagonal is a line of symmetry.



each square's mirror image:

swap across the diagonal

**Answer** 3 squares shaded

**16**

Jay says a shape with no lines of symmetry cannot have rotational symmetry.
Is he right? Explain.

a parallelogram has no lines of symmetry

but it fits after half a turn: order 2

**Answer** No