

UNIT  
10

## Symmetry

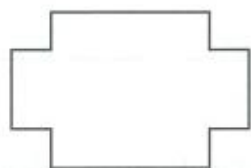
## Revision Notes

1. A figure has a **line symmetry** if, when folded in the centre, one half exactly overlaps the other half.
2. A figure has **rotational symmetry** if, when rotated about an angle less than  $360^\circ$ , it overlaps itself.
3. A **regular polygon** of  $n$  sides has  $n$  lines of symmetry and rotational symmetry of order  $n$ .

**Revision Exercise 10**

1. How many lines of symmetry does each figure have?

(a)



\_\_\_\_\_

(b)



\_\_\_\_\_

(c)



\_\_\_\_\_

(d)



\_\_\_\_\_

2. Draw the line(s) of symmetry for each figure.

(a)



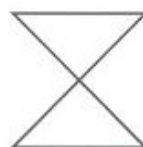
(b)



(c)



(d)



3. How many lines of symmetry does each digit have?



4. Study the letters in the word.

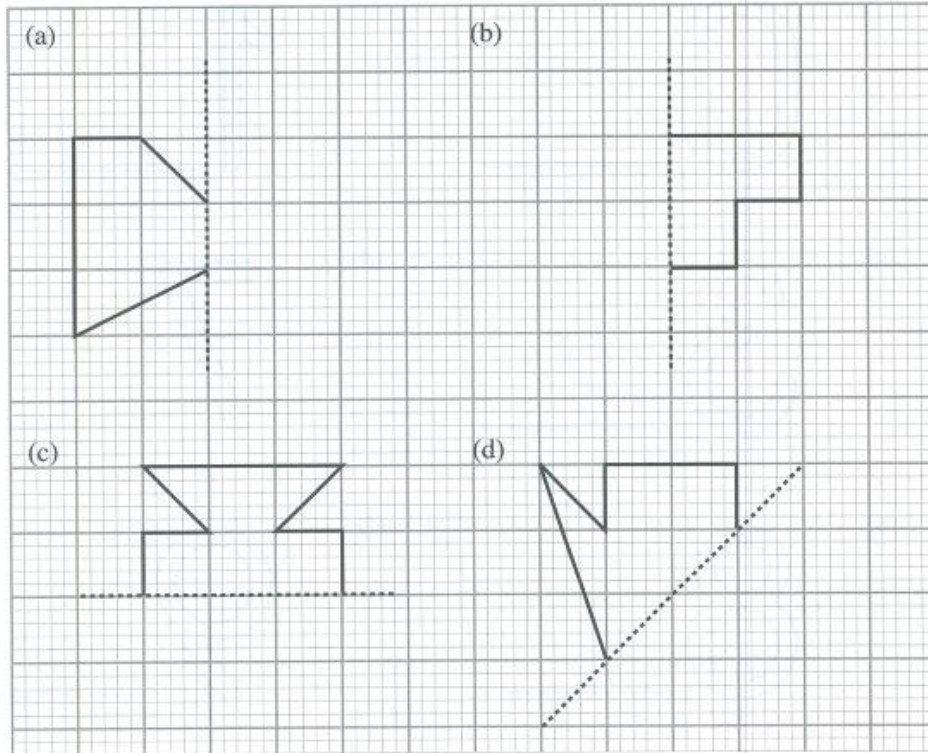
SINGAPORE

(a) Which letters have only one line of symmetry each? \_\_\_\_\_

(b) Which letters have no line symmetry? \_\_\_\_\_

(c) Which letters have more than one line of symmetry each? \_\_\_\_\_

5. For each half-shape, the dotted line is its line of symmetry. Complete each of the following shape.



6. Which words have line symmetry? Put a tick (✓) in the appropriate box.

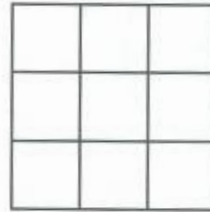
- |     |     |                          |     |     |                          |
|-----|-----|--------------------------|-----|-----|--------------------------|
| (a) | BED | <input type="checkbox"/> | (b) | MUM | <input type="checkbox"/> |
| (c) | DAD | <input type="checkbox"/> | (d) | COD | <input type="checkbox"/> |
| (e) | HI  | <input type="checkbox"/> | (f) | LIE | <input type="checkbox"/> |

7. Shade exactly 2 small squares to get a figure with

(a) no line symmetry,



(b) exactly one line of symmetry,



(c) exactly 2 lines of symmetry.



8. Which figures have rotational symmetry? Put a tick (✓) in the appropriate box.



Figure 1

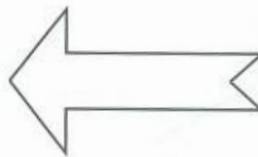


Figure 2

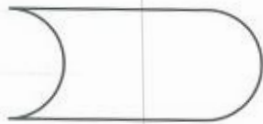


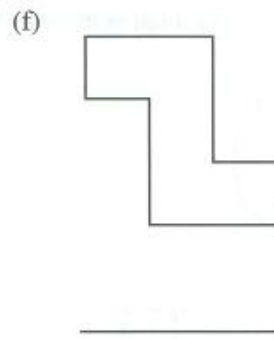
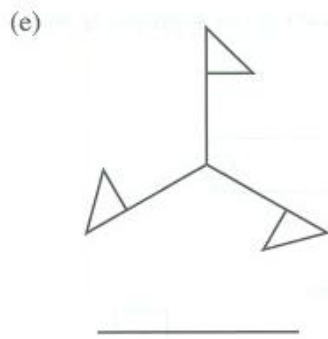
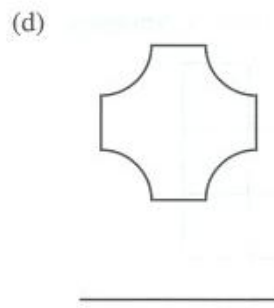
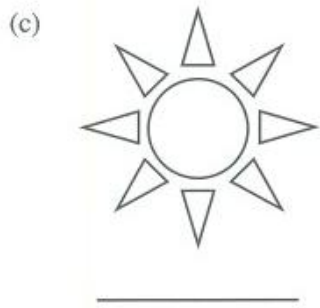
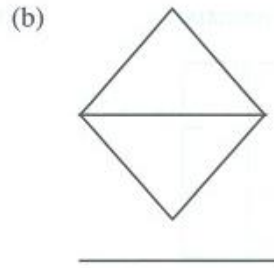
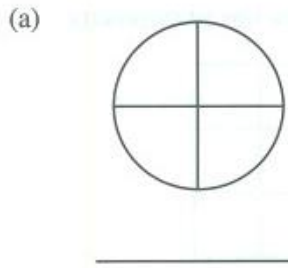
Figure 3



Figure 4



9. State the order of rotational symmetry for each of the following figures.

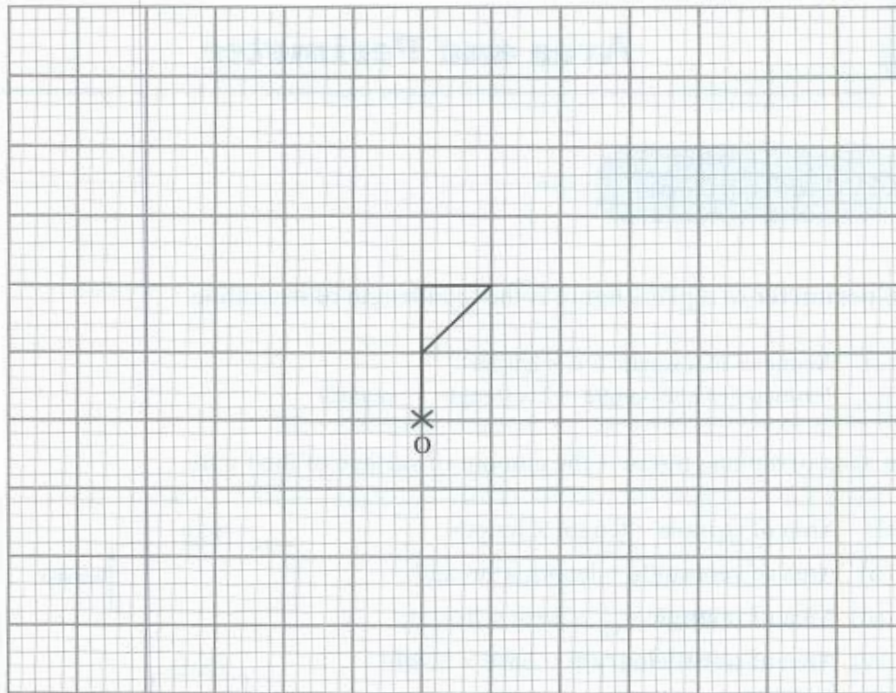


10. Which letters in the word below have

- (a) rotational symmetry? \_\_\_\_\_
- (b) both line symmetry and rotational symmetry? \_\_\_\_\_

SIGNAL

11. Complete the figure below such that it has rotational symmetry of order 4 about O.



12. Complete the table below.

	Shape	Lines of symmetry	Order of rotational symmetry
(a)	Regular hexagon		
(b)	Equilateral triangle		
(c)	Rhombus		
(d)	Regular octagon		
(e)	Regular decagon		