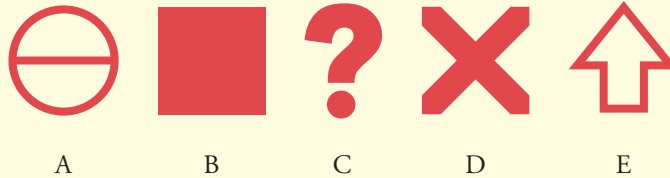

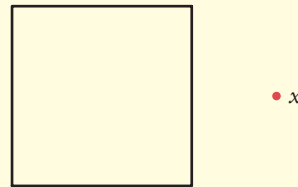


 chapter 17 review

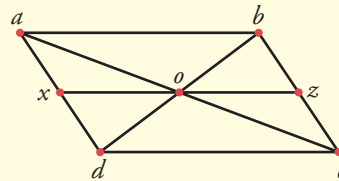
1. (a) Which of the figures *A*, *B*, *C*, *D* or *E* does not have a centre of symmetry?




(b)  Copy the diagram and construct the image of the square under S_x , central symmetry in the point x . Is the image a square?



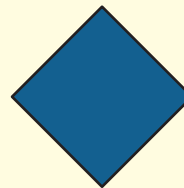
(c) *abcd* is a parallelogram with the diagonals intersecting at *o*. *x* and *z* are the midpoints of $[ad]$ and $[bc]$. Name each of the following:




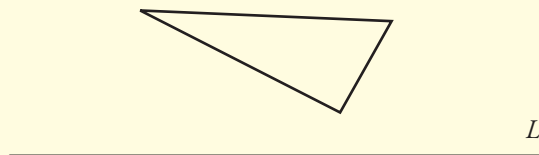
- (i) the image of $\triangle axo$ under S_o , central symmetry in *o*
- (ii) the image of $[dc]$ under the translation \vec{cb}
- (iii) the image of $[do]$ under S_o , central symmetry in *o*
- (iv) a triangle congruent to $\triangle boz$.

2. (a)  How many axes of symmetry has the given square?

Copy the shape and draw in the axes of symmetry.



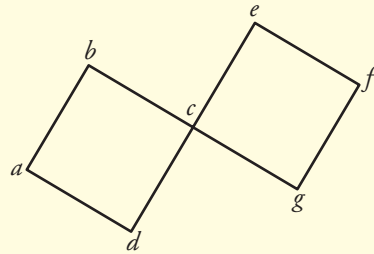
(b)  Copy the diagram and construct the image of the triangle under S_L , axial symmetry in *L*.



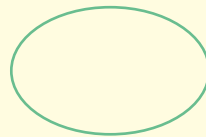
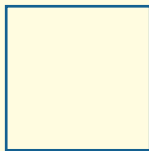
- (c) $abcd$ and $cefg$ are two squares of the same size.

Name each of the following:

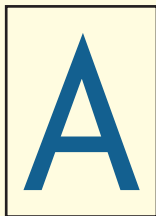
- (i) the image of a under the translation \vec{cg}
 (ii) the image of $[cg]$ under S_{af} , axial symmetry in $[af]$
 (iii) the image of $\triangle bcd$ under S_c , central symmetry in c
 (iv) the image of the square $abcd$ under the translation \vec{be} .



3. (a) ✎ Copy each of the following shapes and mark in the centre of symmetry of each:



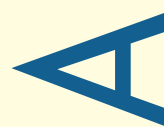
- (b) Which of the following is the image of the letter in the box under central symmetry?



A



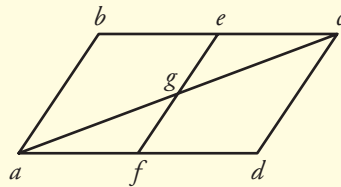
B



C

- (c) $abcd$ is a parallelogram in which e and f are the midpoints of $[bc]$ and $[ad]$. $[ef]$ and the diagonal $[ac]$ intersect at g . Name each of the following:

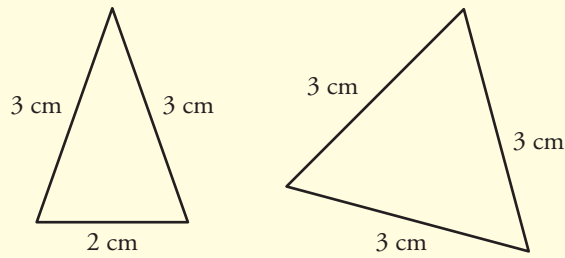
- (i) the image of $[af]$ under central symmetry in g
 (ii) the image of $[ba]$ under the translation \vec{fd}
 (iii) the image of $abef$ under the translation \vec{ec} .



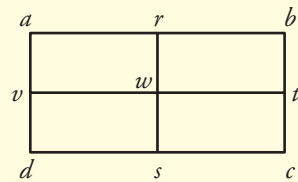
4. (a) Which of the following letters does not have an axis of symmetry?

W O R M

- (b) ✎ Copy each of the following triangles and show their axis of symmetry:



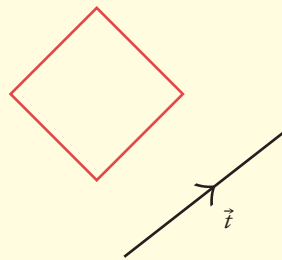
- (c) $abcd$ is a rectangle. r , t , s and v are the midpoints of the sides. $[rs]$ and $[vt]$ intersect at w . Name each of the following:



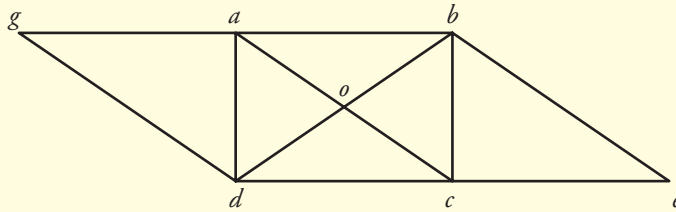
- (i) the image of $[rw]$ under the translation \vec{sd}
 - (ii) the image of $sctw$ under S_w , central symmetry in w
 - (iii) two axes of symmetry of $abcd$
 - (iv) the image of $arwv$ under the translation \vec{rb}
5. (a) Which of the following letters does not have a centre of symmetry?

X E R O X

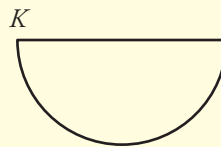
- (b) Copy the following diagram and construct the image of the square under the translation \vec{t} .



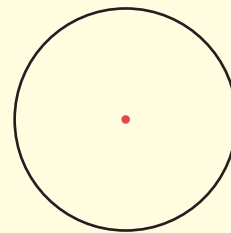
- (c) $abcd$ is a rectangle with its diagonals intersecting at o . $gacd$ and $abec$ are two equal parallelograms. Name each of the following:



- (i) the image of $[gd]$ under the translation \vec{ab}
 - (ii) the image of $\triangle aod$ under S_o , central symmetry in o
 - (iii) the image of $\triangle bec$ under S_o , central symmetry in o
 - (iv) two isosceles triangles.
6. (a) How many axes of symmetry does the semicircle K have? Has the semicircle K a centre of symmetry?



- (b) ✎ Copy the diagram and construct the image of the circle under S_L , axial symmetry in L .



L

- (c) abc is an equilateral triangle. x , y and z are the midpoints of the sides.

Name each of the following:

- (i) the image of $[by]$ under the translation \vec{xz}
- (ii) the image of $\triangle xby$ under the translation \vec{yz}
- (iii) the image of $[bx]$ under S_x , central symmetry in x
- (iv) two parallelograms. Give a reason for your answer.

