(1) Complete each statement below:

(a) A to B is a translation by the vector \( \begin{pmatrix} 2 \\ 3 \end{pmatrix} \)

(b) A to C is a translation by the vector \( \begin{pmatrix} 4 \\ 5 \end{pmatrix} \)

(c) A to D is a translation by the vector \( \begin{pmatrix} 6 \\ 7 \end{pmatrix} \)

(d) A to E is a translation by the vector \( \begin{pmatrix} 8 \\ 9 \end{pmatrix} \)

(2)


(b) Draw the shape H such that the translation of A to H is (-1,-2).

(a) A to B is a rotation of \( 90^\circ \), about the point (0,0)

(b) A to C is a rotation of \( 180^\circ \), about the point (3,3)

(c) A to D is a rotation of \( 270^\circ \), about the point (-1,-1)

(d) A to E is a rotation of \( 360^\circ \), about the point (0,0)

(e) A to F is a rotation of \( 45^\circ \), about the point (1,1)

(Please note: there can be more than one valid answer for each of the above)

(2)

(a) B is a reflection of A in the y-axis.

(b) C is a reflection of A in the x-axis.

(c) D is a reflection of A in the line \( x = 2 \).

(d) E is a reflection of A in the line \( y = 2 \).

(e) F is a reflection of A in the line \( y = 0 \).

(Please note: These are not examples with a centre of enlargement)

(a) A to B is an enlargement with scale factor 2.

(b) A to C is an enlargement with scale factor 3.

(c) A to D is an enlargement with scale factor 4.

(d) B to A is an enlargement with scale factor 1.

(e) B to A is an enlargement with scale factor 1.

(f) C to A is an enlargement with scale factor 1.

(2)

(a) State fully a single transformation that maps (i) A to B, (ii) A to C, (iii) A to D, (iv) A to E, (v) E to D (it’s not a reflection!!!).

(b) State fully the single transformation that maps (i) A to B, (ii) A to C, (iii) B to A, (iv) B to C.

State fully the single transformation that maps (i) A to B, (ii) A to C, (iii) A to D, (iv) A to E, (v) E to D (it’s not a reflection!!!).