

## Worksheet on Translations (Years 7 -11)

### Question:

(i) Describe the translation (or write down the vector of translation) that maps:

- (a) Shape A to shape B.
- (b) Shape B to shape C.
- (c) Shape C to shape D.
- (d) Shape A to shape D.
- (e) Shape D to shape A.
- (f) Shape C to shape B.

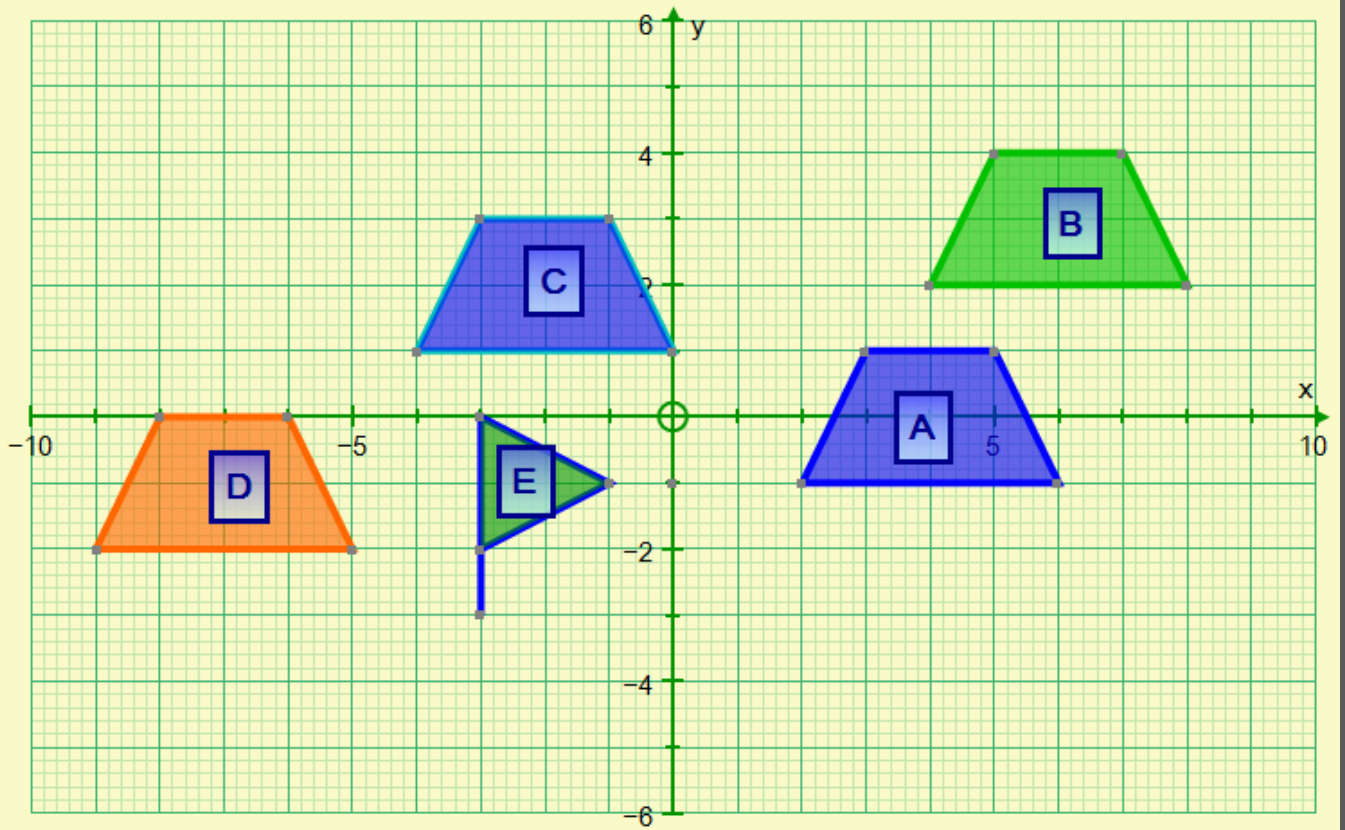
(ii) Draw the image of shape E under the translation vector:

- (a)  $\begin{pmatrix} 2 \\ 0 \end{pmatrix}$  label the image F.
- (b)  $\begin{pmatrix} 3 \\ -2 \end{pmatrix}$  label the image G.
- (c)  $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$  label the image H.

(iii) Describe the translation (or write down the vector of translation) that maps:

- (a) Shape H to shape G.
- (b) Shape H to shape F.
- (c) Shape G to shape F.

**SEE DIAGRAM ON THE NEXT PAGE**



**Answers:**

(i)

(a) Shape A to shape B.  $\begin{pmatrix} 2 \\ 3 \end{pmatrix}$

(b) Shape B to shape C.  $\begin{pmatrix} -8 \\ -1 \end{pmatrix}$

(c) Shape C to shape D.  $\begin{pmatrix} -5 \\ -3 \end{pmatrix}$

(d) Shape A to shape D.  $\begin{pmatrix} -11 \\ -1 \end{pmatrix}$

(e) Shape D to shape A.  $\begin{pmatrix} 11 \\ 1 \end{pmatrix}$

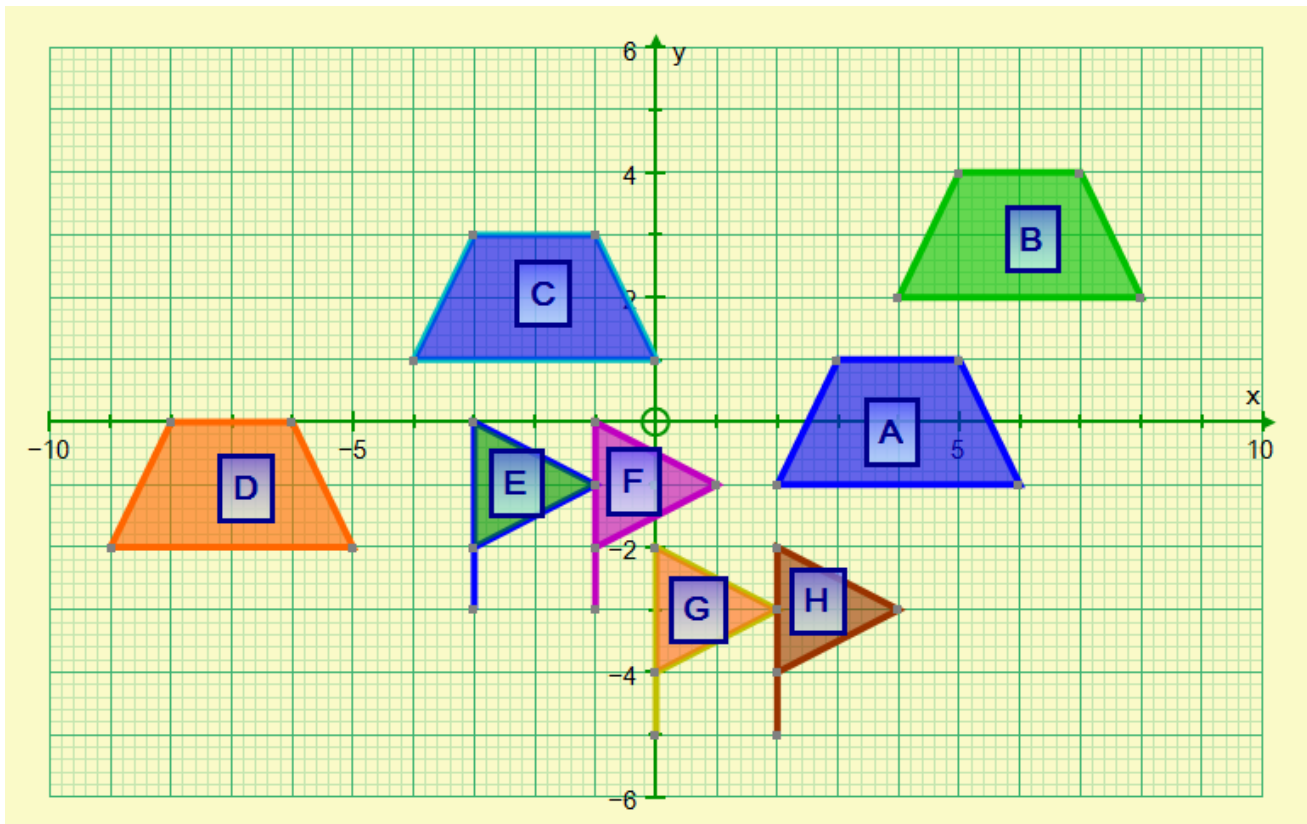
(f) Shape C to shape B.  $\begin{pmatrix} 8 \\ 1 \end{pmatrix}$

(ii) see diagram on the next page.

(iii) (a) Shape H to shape G. Vector  $\begin{pmatrix} -2 \\ 0 \end{pmatrix}$

(b) Shape H to shape F. Vector  $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$

(c) Shape G to shape F. Vector  $\begin{pmatrix} -1 \\ 2 \end{pmatrix}$



I hope you find this useful. Please let me know if you find any errors.