

Translations

Video 325, 326 on www.corbettmaths.com

Examples

Workout



Click here

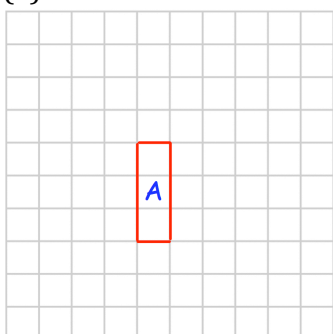


Scan here

*There are templates for questions 1 and 3 at the end of this exercise.

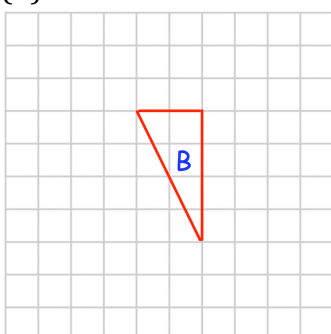
Question 1: Translate each of the shapes below as instructed.

(a)



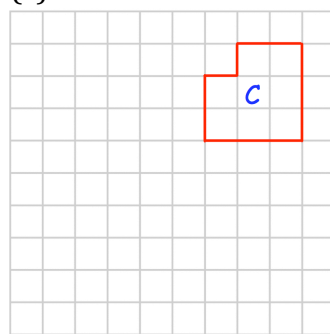
Translate A by $\begin{pmatrix} 3 \\ 1 \end{pmatrix}$

(b)



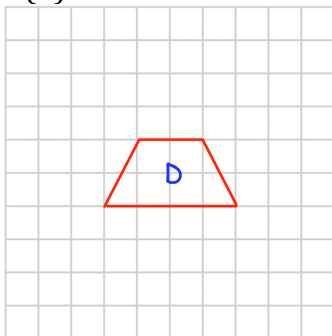
Translate B by $\begin{pmatrix} 2 \\ -2 \end{pmatrix}$

(c)



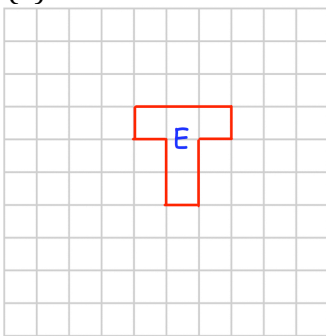
Translate C by $\begin{pmatrix} 0 \\ -5 \end{pmatrix}$

(d)



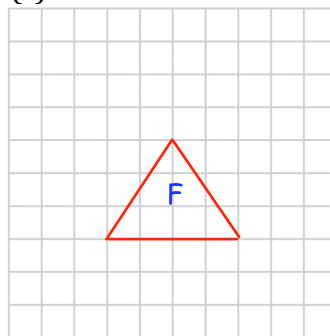
Translate D by $\begin{pmatrix} -3 \\ 3 \end{pmatrix}$

(e)



Translate E by $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$

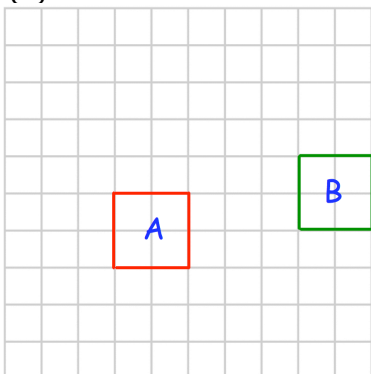
(f)



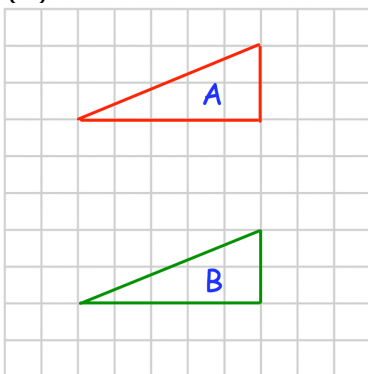
Translate F by $\begin{pmatrix} 1.5 \\ 0 \end{pmatrix}$

Question 2: Describe fully each translation that takes shape A to shape B

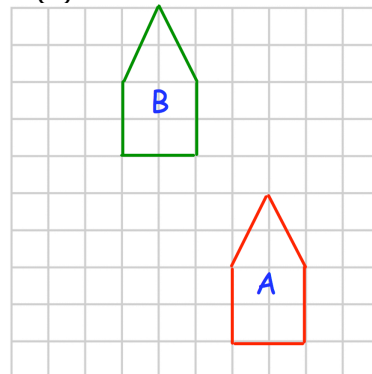
(a)



(b)

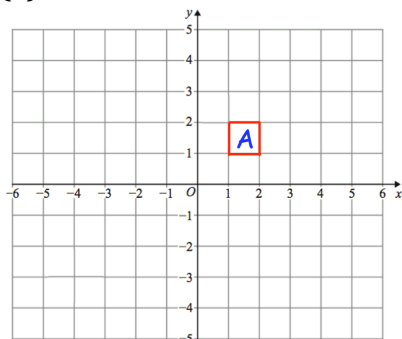


(c)



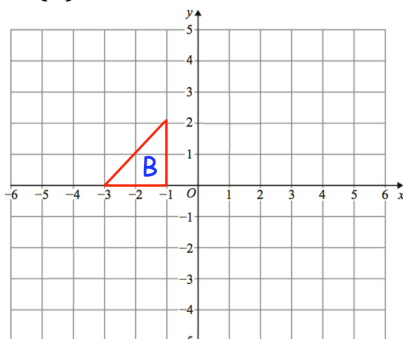
Question 3: Translate each of the shapes below as instructed.

(a)



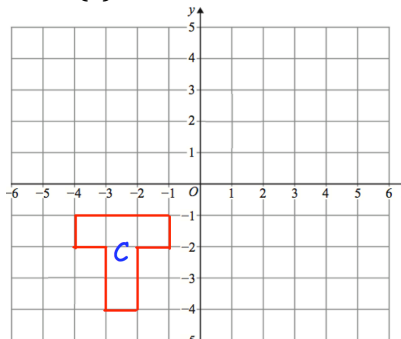
Translate A by $\begin{pmatrix} 2 \\ -3 \end{pmatrix}$

(b)



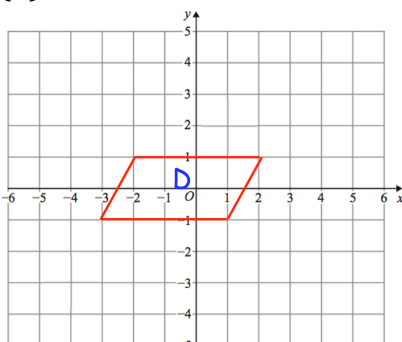
Translate B by $\begin{pmatrix} 6 \\ 1 \end{pmatrix}$

(c)



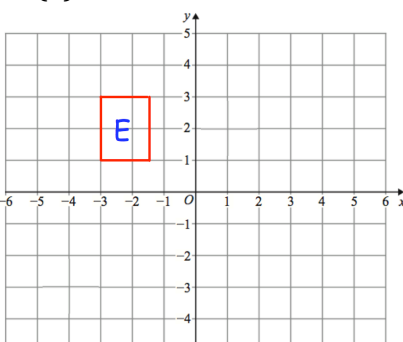
Translate C by $\begin{pmatrix} -1 \\ 5 \end{pmatrix}$

(d)



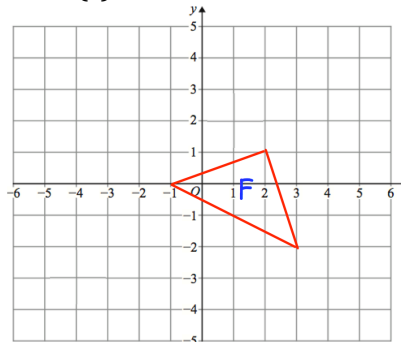
Translate D by $\begin{pmatrix} -3 \\ -2 \end{pmatrix}$

(e)



Translate E by $\begin{pmatrix} 4.5 \\ -4 \end{pmatrix}$

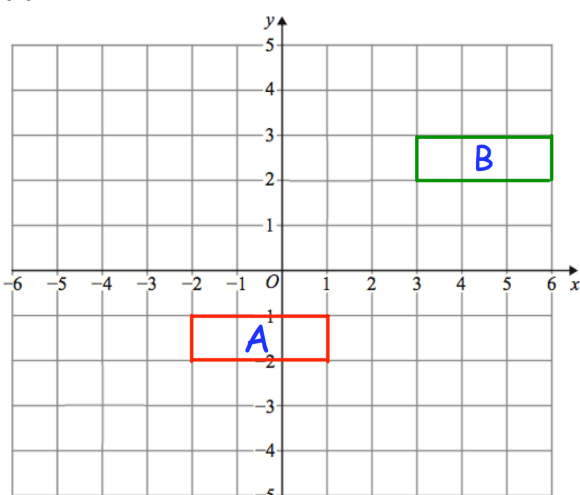
(f)



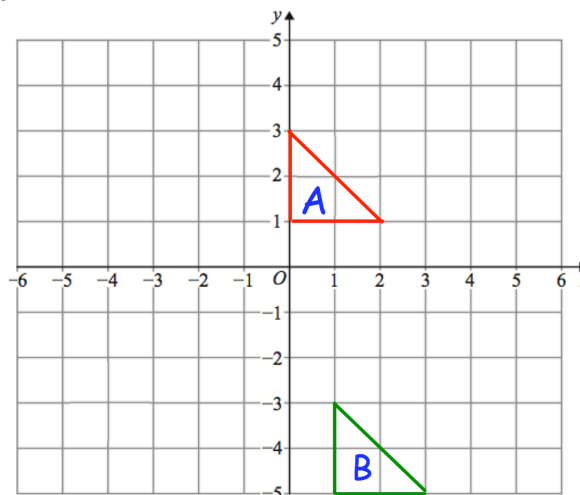
Translate F by $\begin{pmatrix} -1 \\ 1 \end{pmatrix}$

Question 4: Describe fully the single transformation that takes shape A to shape B

(a)



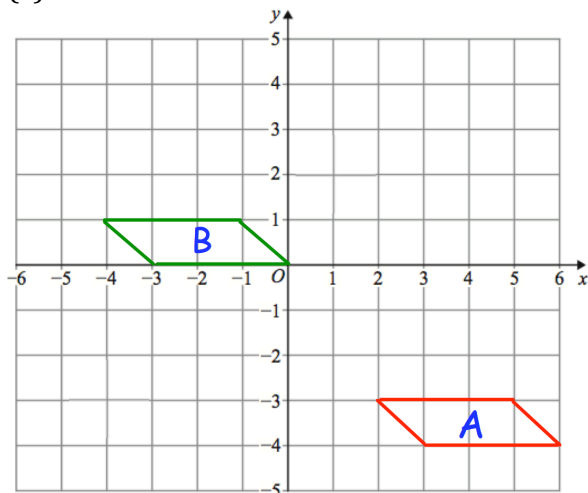
(b)



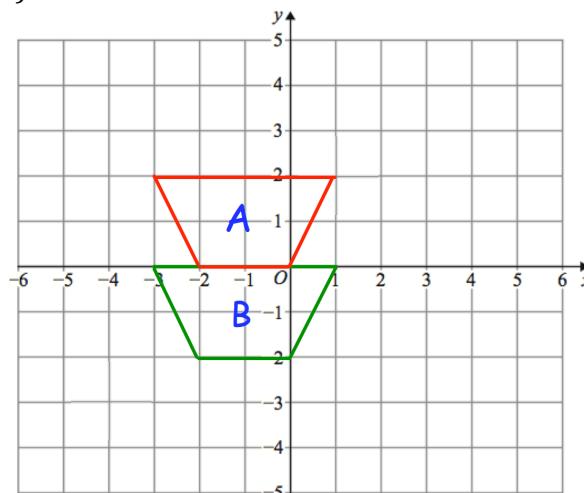
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(c)



(d)

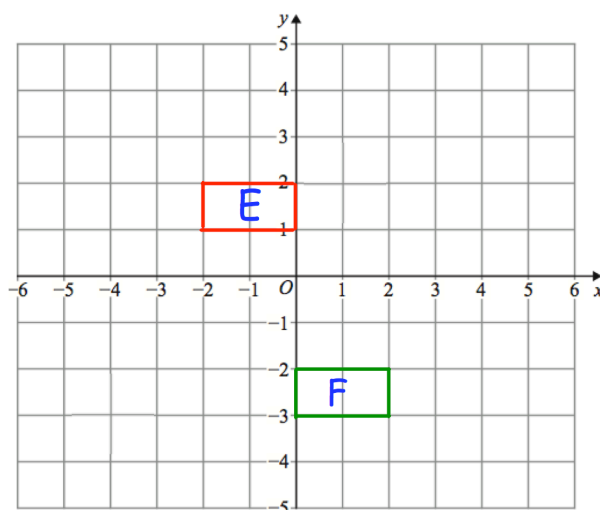


Question 5: The translation vector to take shape C to shape D is $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$

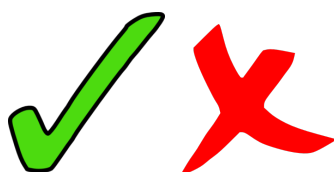
What translation vector takes shape D to shape C?

Question 6: Edward has been asked to translate shape E by $\begin{pmatrix} -4 \\ 2 \end{pmatrix}$

He has labelled his answer shape F
Can you spot any mistakes?



Answers



Click here



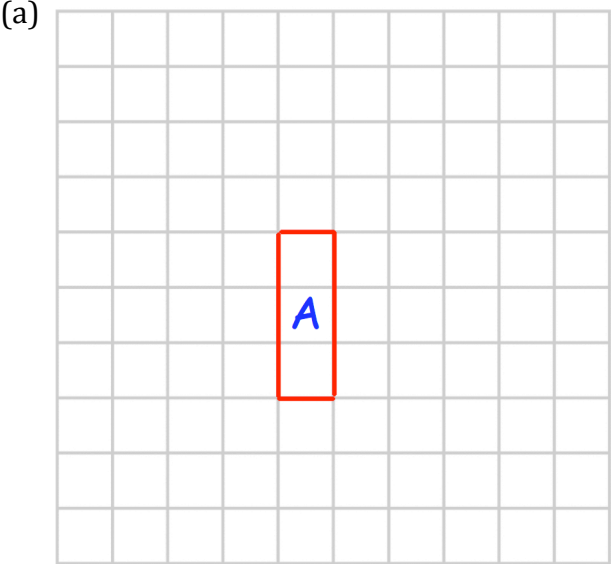
Scan here

Translations

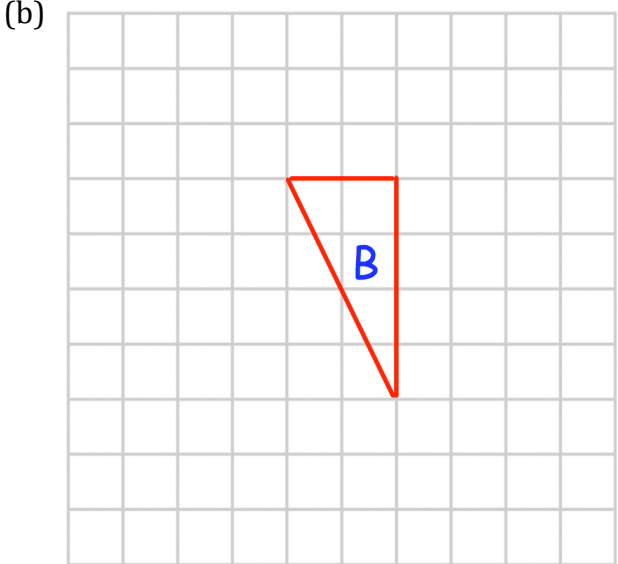
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Templates

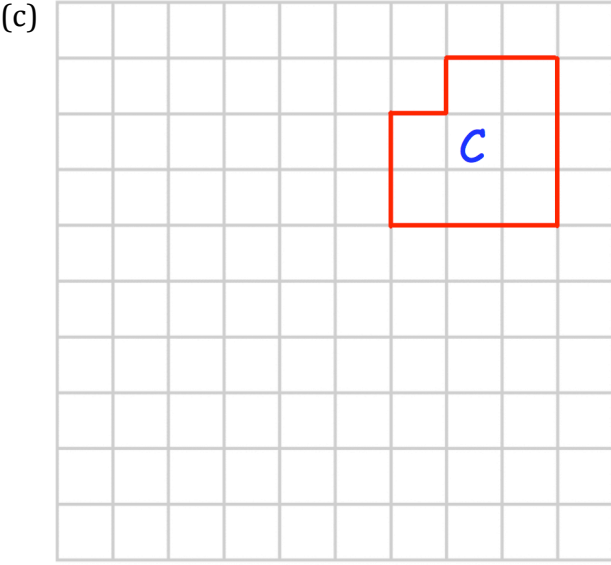
Question 1



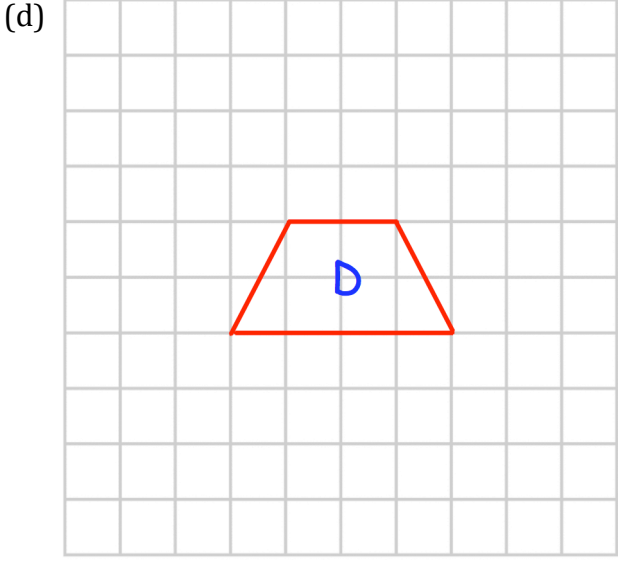
Translate A by $\begin{pmatrix} 3 \\ 1 \end{pmatrix}$



Translate B by $\begin{pmatrix} 2 \\ -2 \end{pmatrix}$



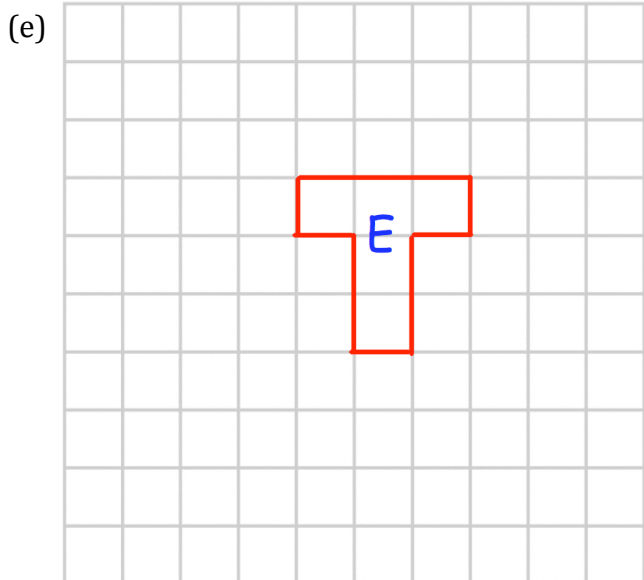
Translate C by $\begin{pmatrix} 0 \\ -5 \end{pmatrix}$



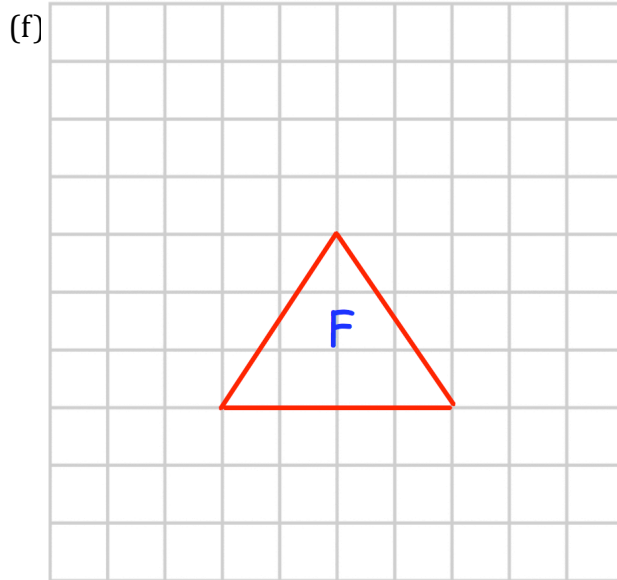
Translate D by $\begin{pmatrix} -3 \\ 3 \end{pmatrix}$

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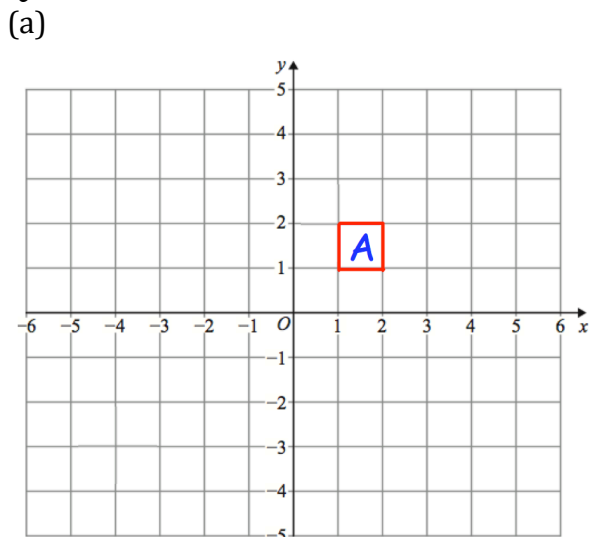


Translate E by $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$

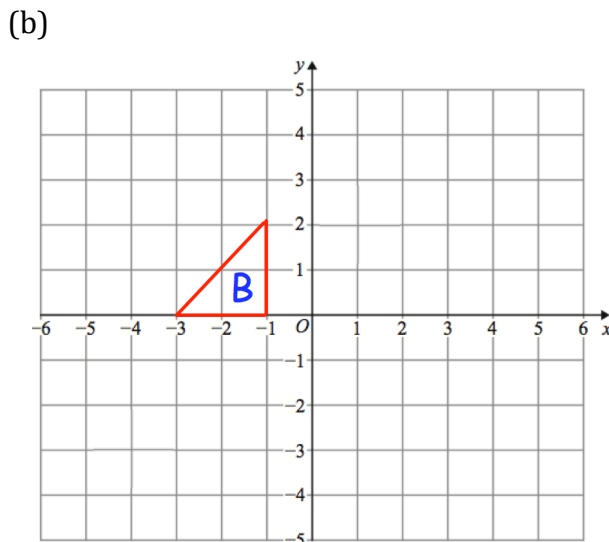


Translate F by $\begin{pmatrix} 1.5 \\ 0 \end{pmatrix}$

Question 3

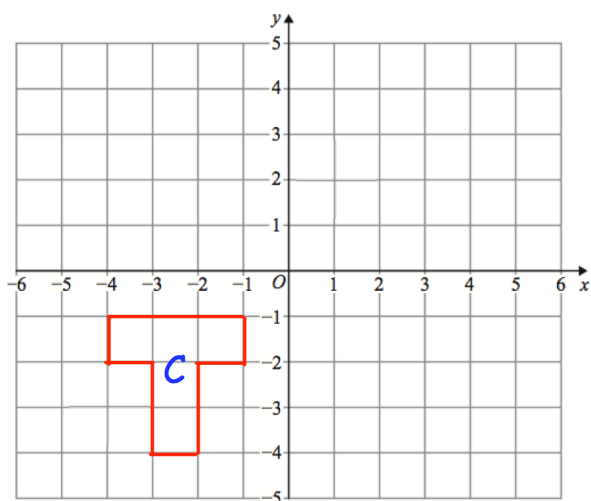


Translate A by $\begin{pmatrix} 2 \\ -3 \end{pmatrix}$



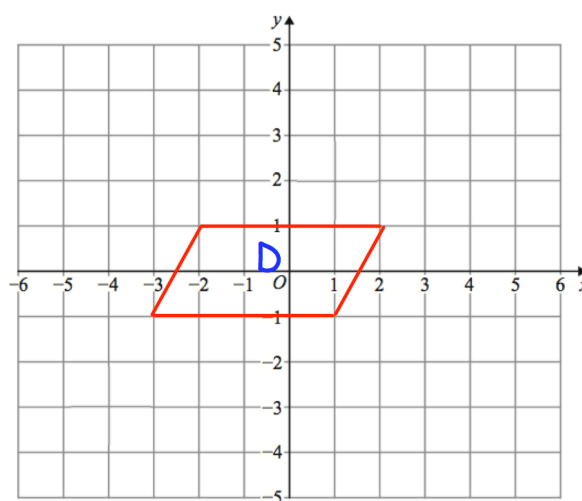
Translate B by $\begin{pmatrix} 6 \\ 1 \end{pmatrix}$

(c)



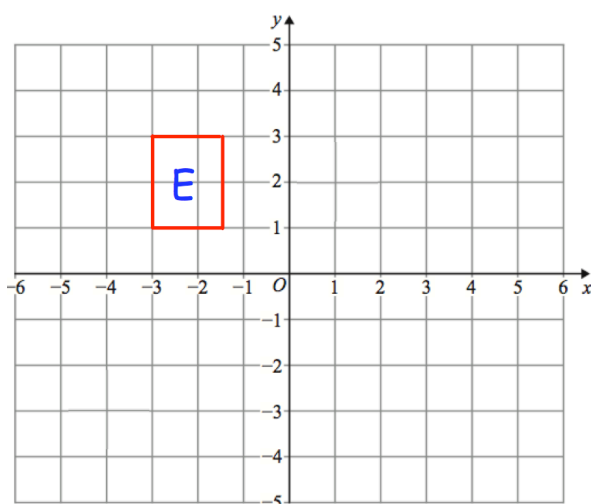
Translate C by $\begin{pmatrix} -1 \\ 5 \end{pmatrix}$

(d)



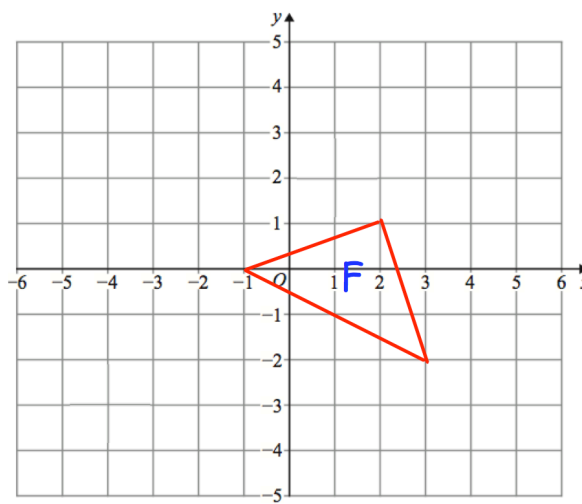
Translate D by $\begin{pmatrix} -3 \\ -2 \end{pmatrix}$

(e)



Translate E by $\begin{pmatrix} 4.5 \\ -4 \end{pmatrix}$

(f)



Translate F by $\begin{pmatrix} -1 \\ 1 \end{pmatrix}$