S3.3 Translations

This spread will show you how to:

- Recognise and visualise translations
- Understand that translations are specified by a distance and direction

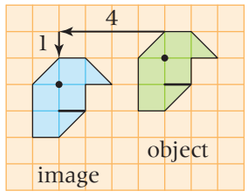
Keywords

Left
Right
Slide
Translation

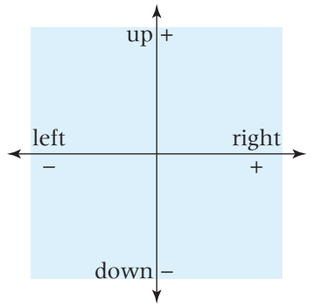
- A **translation** is a **sliding** movement.

To describe a translation you give:

- the distance moved **right** or **left** , then
- the distance moved **up** or **down**.



Translate the object 4 units left and 1 unit down.

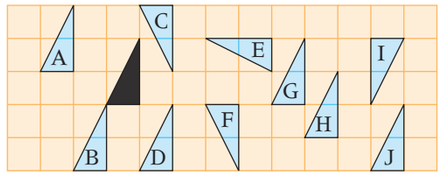


Right and up are positive directions.

You choose corresponding points on the object and image to work out the translation.

Example

Which triangles are translations of the black triangle?



A, B, D, G, H, J because they are all in the same orientation.

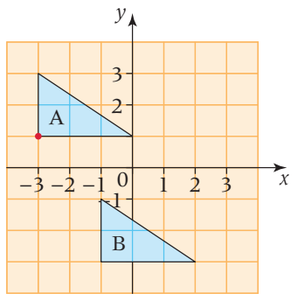
Same orientation means the same way up.

Example

a Give the coordinates of the point marked by a dot (•) in triangle A.

b Describe the transformation that moves triangle A to triangle B.

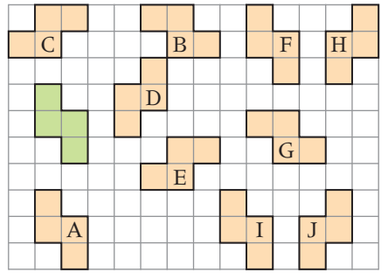
c Give the coordinates of the point in triangle B that corresponds to the dot (•) in triangle A.



a (–3, 1)
b Translation, 2 units right and 4 units down.
c (–1, –3)

Exercise S3.3

1 Which shapes are translations of the green shape?

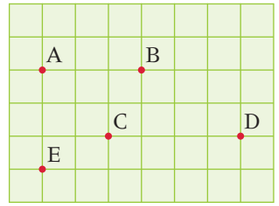


DID YOU KNOW?

The process of turning one language into another is one more definition of the word *translation*.

2 Describe these translations.

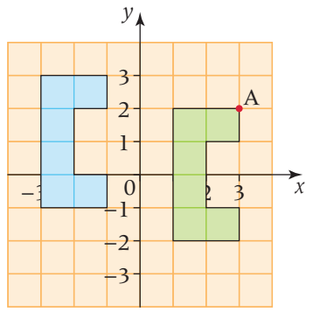
a E to D
b E to C
c A to B
d A to C
e B to D
f C to A
g C to E
h B to A
i E to A
j A to E

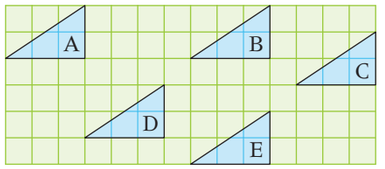


3 **a** Give the coordinates of point A.

b Describe the transformation that moves the green shape to the blue shape.

c Give the coordinates of the point in the blue shape that corresponds to point A in the green shape.



4 Describe these translations.

a D to B
b A to B
c A to C
d D to E
e B to E
f B to C
g E to D
h E to A
i B to D
j B to A
k E to B
l A to D
m C to B
n E to C
o C to A
p A to E
q C to D
r D to C
s C to E
t D to A