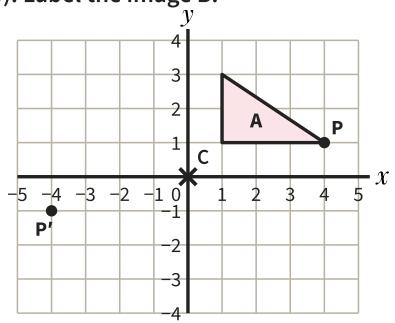
Enlargement: negative scale factors

1

Enlarge shape A by scale factor −1, centre (0, 0). Label the image B.



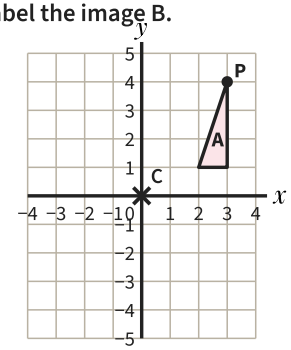
P — 4 right, 1 up

P′ — 4 left, 1 down

Corners _____

2

Enlarge shape A by scale factor −1, centre (0, 0). Label the image B.



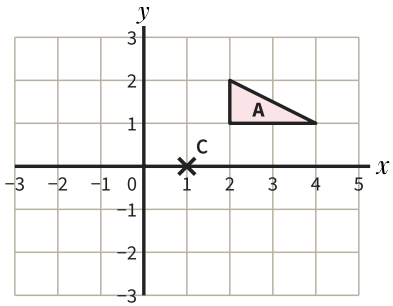
P — 3 right, 4 up

P′

Corners _____

3

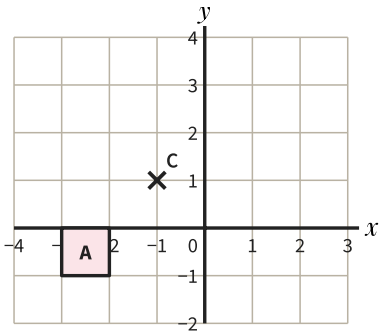
Enlarge shape A by scale factor −1, centre C (1, 0). Label the image B.



Corners _____

4

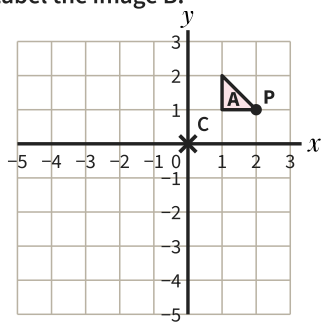
Enlarge shape A by scale factor −1, centre C (−1, 1). Label the image B.



Corners _____

5 *Notice the change!*

Enlarge shape A by scale factor −2, centre (0, 0). Label the image B.



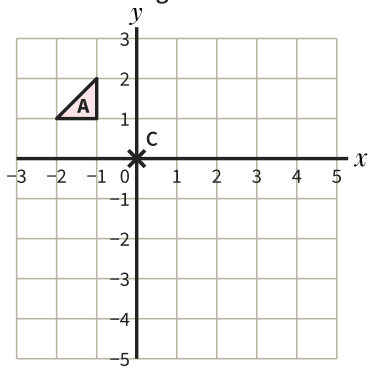
P — 2 right, 1 up

P′

Corners _____

6

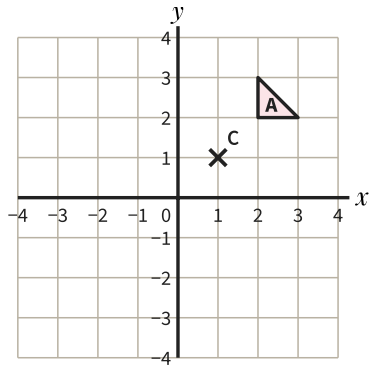
Enlarge shape A by scale factor −2, centre (0, 0). Label the image B.



Corners _____

7

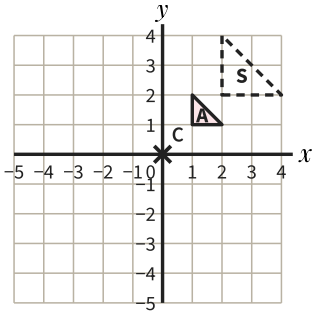
Enlarge shape A by scale factor −2, centre C (1, 1). Label the image B.



Corners _____

8

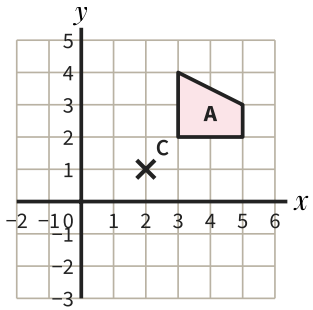
Sam enlarges shape A by scale factor −2, centre (0, 0). He draws shape S.
Explain his mistake.



Enlargement: negative scale factors *further practice*

9

Enlarge shape A by scale factor −1, centre C (2, 1).



Corners _____

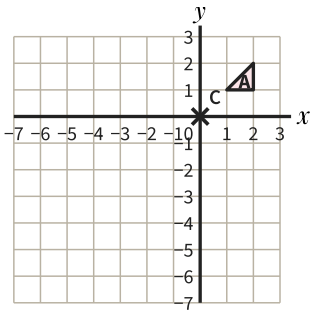
10

P (4, 3) is enlarged by scale factor −2, centre (1, 1). Find the coordinates of P′.

Answer _____

11

Enlarge shape A by scale factor −3, centre (0, 0).



Corners _____

12

A triangle has sides 3 cm, 4 cm and 5 cm. It is enlarged by scale factor −2. Find the perimeter of the image.

Answer _____

13

Shape A is enlarged by scale factor −1, centre (−1, 2). Describe fully the rotation that gives the same image.

Answer _____

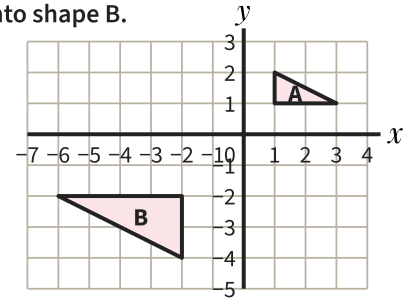
14

P′ (−6, −2) is the image of P after an enlargement, scale factor −2, centre (0, 0). Find the coordinates of P.

Answer _____

15

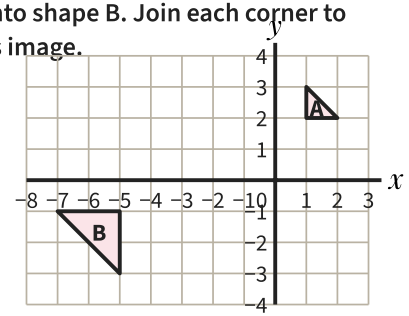
Describe fully the single transformation that maps shape A onto shape B.



Answer _____

16

Describe fully the single transformation that maps shape A onto shape B. Join each corner to its image.



Answer _____