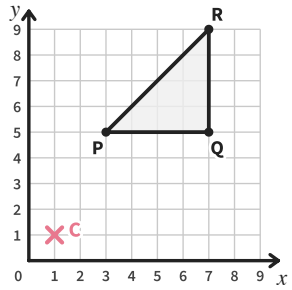
Enlargement by a fractional scale factor

1

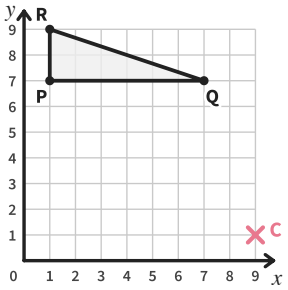
Enlarge the shape by scale factor $\frac{1}{2}$, centre C (1, 1). The first row is done for you.



Vertex	Journey from C	Journey × $\frac{1}{2}$	Image vertex
P (3, 5)	right 2, up 4	right 1, up 2	P′ (2, 3)
Q (7, 5)	right 6, up 4		
R (7, 9)	right 6, up 8		

2

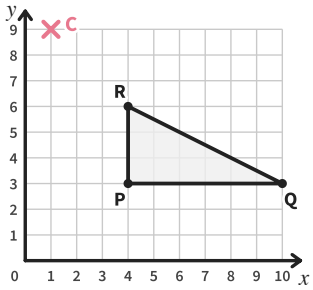
Enlarge the shape by scale factor $\frac{1}{2}$, centre C (9, 1).



Vertex	Journey from C	Journey × $\frac{1}{2}$	Image vertex
P (1, 7)	left 8, up 6		
Q (7, 7)	left 2, up 6		
R (1, 9)	left 8, up 8		

3

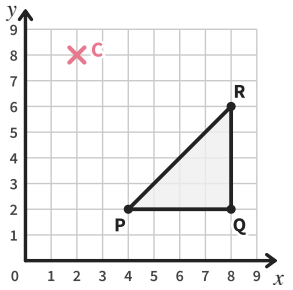
Enlarge the shape by scale factor $\frac{1}{3}$, centre C (1, 9).



Vertex	Journey from C	Journey × $\frac{1}{3}$	Image vertex
P (4, 3)	right 3, down 6		
Q (10, 3)	right 9, down 6		
R (4, 6)	right 3, down 3		

4

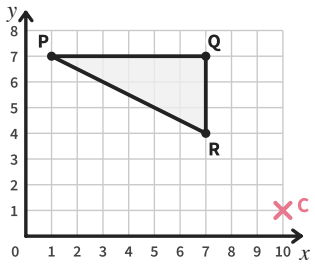
Enlarge the shape by scale factor $\frac{1}{2}$, centre C (2, 8).



Vertex	Journey from C	Journey × $\frac{1}{2}$	Image vertex
P (4, 2)			
Q (8, 2)			
R (8, 6)			

5

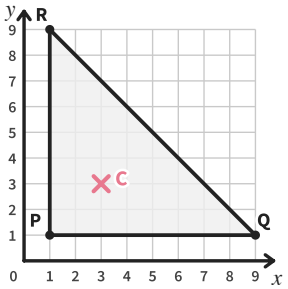
Enlarge the shape by scale factor $\frac{1}{3}$, centre C (10, 1).



Vertex	Journey from C	Journey × $\frac{1}{3}$	Image vertex
P (1, 7)			
Q (7, 7)			
R (7, 4)			

6

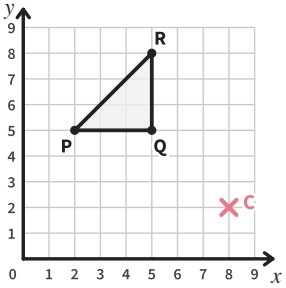
Enlarge the shape by scale factor $\frac{1}{2}$, centre C (3, 3). The centre is inside the shape.



Vertex	Journey from C	Journey × $\frac{1}{2}$	Image vertex
P (1, 1)			
Q (9, 1)			
R (1, 9)			

7

Enlarge the shape by scale factor $\frac{1}{3}$, centre C (8, 2). No table this time.

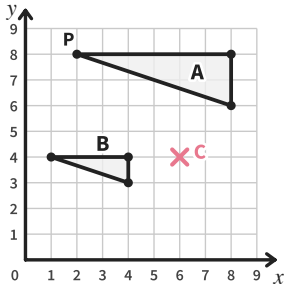


P′ _____

8

Enlarge A by scale factor $\frac{1}{2}$, centre C (6, 4).

Sam halved the coordinates and drew B.
What did he do wrong?

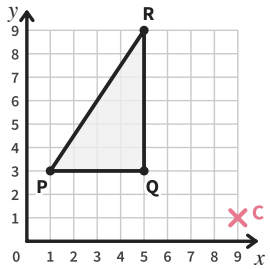


P′ should be _____

Enlargement by a fractional scale factor *further practice*

9

Enlarge the triangle by scale factor $\frac{1}{2}$, centre C (9, 1).



P′ _____

10

The point (9, 5) is enlarged by scale factor $\frac{1}{2}$, centre (1, 1). Write down the coordinates of its image.

Answer _____

11

A rectangle is 12 squares long and 6 squares wide. It is enlarged by scale factor $\frac{1}{3}$. How long and how wide is the image?

Answer _____

12

Nina says that a scale factor of $\frac{1}{2}$ can't be an enlargement, because the shape gets smaller. Is she right? Explain.

Answer _____

13

A designer shrinks a logo on a grid by scale factor $\frac{1}{2}$, centre (2, 3).
One corner of the logo is at (10, 7).
Where does that corner go?

Answer _____

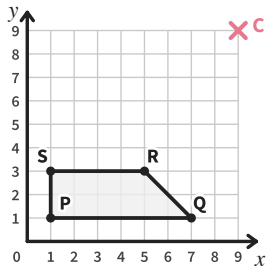
14

A triangle has sides of 6 cm, 8 cm and 10 cm. It is enlarged by scale factor $\frac{1}{2}$.
What is the perimeter of the image?

Answer _____

15

Enlarge the trapezium by scale factor $\frac{1}{2}$, centre C (9, 9).



P′ _____

16

Ella enlarges a shape by scale factor $\frac{1}{2}$, centre C. Then she enlarges her image by scale factor 2, centre C.
What does she get? Explain.

Answer _____