## Enlargements

## r <br> REVISE THIS TOPIC

1 (a) On the grid, draw an enlargement of the rectangle with scale factor 2.
(b) On the grid, draw an enlargement of the triangle with scale factor 3.
(2)


2 (a) On the grid, draw an enlargement of the triangle with scale factor 2.
(b) On the grid, draw an enlargement of the trapezium with scale factor 3 .
(2)


3 (a) On the grid, draw an enlargement of Shape $\mathbf{A}$ with scale factor 3
(b) On the grid, draw an enlargement of the square with scale factor $\frac{1}{2}$
(1)


4 (a) On the grid, draw an enlargement of Shape $\mathbf{A}$ with scale factor $\frac{1}{3}$
(b) On the grid, draw an enlargement of Shape $\mathbf{B}$ with scale factor $1 \frac{1}{2}$


5 Shape $\mathbf{A}$ is enlarged by scale factor 2 to give shape $\mathbf{B}$. Shape $\mathbf{B}$ is enlarged to give shape $\mathbf{C}$.


Work out the scale factor of enlargement from shape $\mathbf{B}$ to shape $\mathbf{C}$.

## 

6 Shape $\mathbf{A}$ is enlarged to give shape $\mathbf{B}$.
Shape $\mathbf{C}$ is enlarged to give shape $\mathbf{D}$.

(a) Complete the statements below

Shape $\mathbf{A}$ has been enlarged by scale factor ................... to give shape $\mathbf{B}$.
Shape $\mathbf{C}$ has been enlarged by scale factor ....................... to give shape $\mathbf{D}$.
(b) Mark with a cross $(\times)$, the centre of enlargement, for the enlargement from shape $\mathbf{A}$ to shape $\mathbf{B}$. Label this point $\mathbf{P}$.
(c) Mark with a cross $(\times)$, the centre of enlargement, for the enlargement from shape $\mathbf{C}$ to shape $\mathbf{D}$. Label this point $\mathbf{Q}$.

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7 (a) Enlarge shape $\mathbf{A}$ by scale factor 2 with centre of enlargement (3, 1) Label the image shape $\mathbf{B}$.

(b) Enlarge shape $\mathbf{C}$ by scale factor 3 with centre of enlargement (1,2)

Label the image shape $\mathbf{D}$.


8 (a) Enlarge shape $\mathbf{A}$ by scale factor 2 with centre of enlargement $(2,4)$ Label the image shape $\mathbf{B}$.

(b) Enlarge shape $\mathbf{C}$ by scale factor 0.5 with centre of enlargement ( 0,0 )

Label the image shape $\mathbf{D}$.


9 Shape A and Shape $\mathbf{B}$ are shown on the grid below.

(a) Enlarge shape $\mathbf{A}$ by scale factor 4 with centre of enlargement ( $-6,6$ ) Label the image shape $\mathbf{C}$.
(b) Enlarge shape $\mathbf{B}$ by scale factor 2 with centre of enlargement (2, -4) Label the image shape $\mathbf{D}$.

10 Shape A and Shape B are shown on the grid below.

(a) Enlarge shape $\mathbf{A}$ by scale factor $\frac{1}{2}$ with centre of enlargement $(5,5)$ Label the image shape $\mathbf{C}$.
(b) Enlarge shape $\mathbf{B}$ by scale factor $\frac{1}{3}$ with centre of enlargement $(0,-6)$ Label the image shape $\mathbf{D}$.

11 Shape A and Shape $\mathbf{B}$ are shown on the grid below.

(a) Enlarge shape $\mathbf{A}$ by scale factor 3 with centre of enlargement $(6,6)$ Label the image shape $\mathbf{C}$.
(b) Enlarge shape $\mathbf{B}$ by scale factor 4 with centre of enlargement (-6, -6) Label the image shape $\mathbf{D}$.

12 Shape A and Shape $\mathbf{B}$ are shown on the grid below.

(a) Enlarge shape $\mathbf{A}$ by scale factor 2 with centre of enlargement (2, 4) Label the image shape $\mathbf{C}$.
(b) Enlarge shape $\mathbf{B}$ by scale factor 3 with centre of enlargement (-4, -6) Label the image shape $\mathbf{D}$.

13

(a) Describe fully the single transformation that maps shape A onto shape $\mathbf{B}$.

Enlargement, scale factor 3, centre of enlargement $(-3,2)$
(b) Describe fully the single transformation that maps shape $\mathbf{C}$ onto shape $\mathbf{D}$.

$$
\text { Enlargement, scale factor } 2 \text {, }
$$

- centre of enlargement $(-5,-1)$
$\qquad$

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(a) Describe fully the single transformation that maps shape $\mathbf{A}$ onto shape $\mathbf{B}$.

Enlargement, scale factor 2, centre of enlargement $(1,2)$
(b) Describe fully the single transformation that maps shape $\mathbf{C}$ onto shape $\mathbf{D}$.

Enlargement, scale factor $\frac{1}{3}$, centre of enlargement $(-2,6)$

15

(a) Describe fully the single transformation that maps shape AGHIJK onto shape ABCDEF.

Enlargement, scale factor 2,
centre of enlargement $(1,3)$
(b) Describe fully the single transformation that maps triangle ABC to triangle $A D E$ Enlargement, scale factor 3, centre of enlargement $(2,12)$

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Shape $\mathbf{A}$ is enlarged by scale factor 3 with centre of enlargement $(0,0)$ to shape $\mathbf{B}$.
Shape B is enlarged to shape C.
Describe fully the single transformation that maps shape $\mathbf{B}$ onto shape $\mathbf{C}$.

Enlargement, scale factor $\frac{1}{3}$, centre of enlargement $(12,3)$

