The Beauty Formula

NAME: ....

CLASS: ....

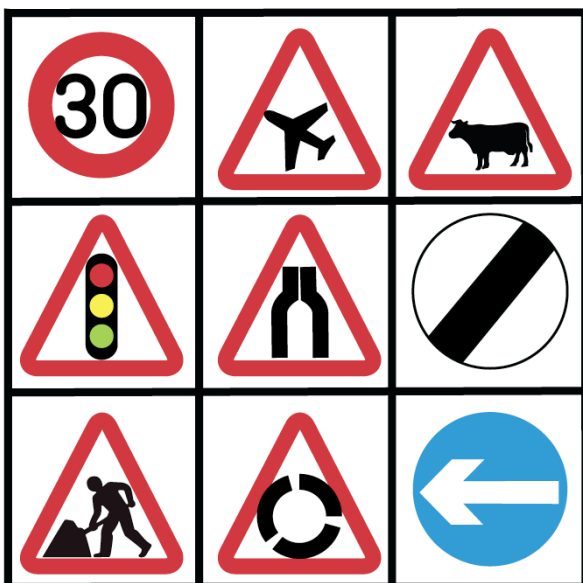DATE: ....

Basic

1) Orange paint is made by mixing 11 parts yellow paint to 9 parts red paint. Fred wants to make 40 litres of orange paint. How much red paint will he need?

2) A school employs teachers to number of children in the ratio 1:23.

a) If the school has 1100 children, how many teachers does it need?

b) If the school has 17 teachers, how many children can it take?

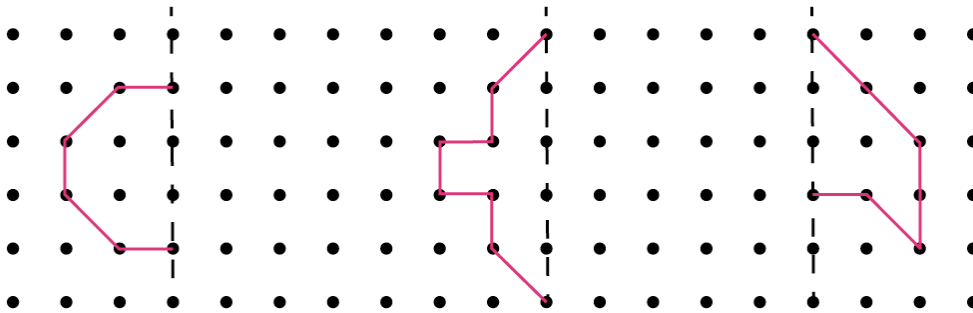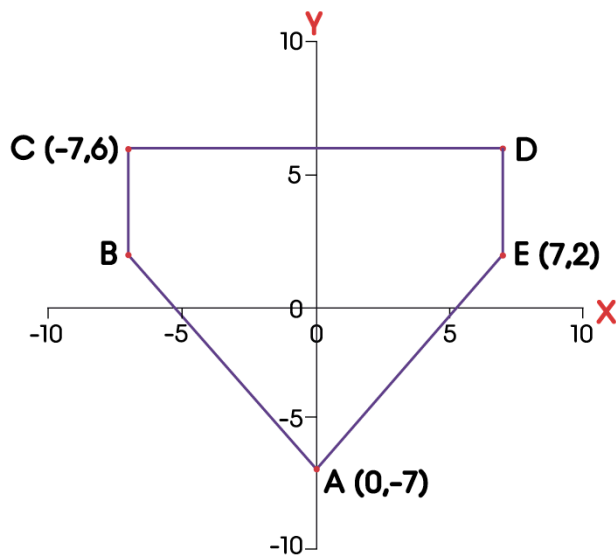3) Draw any lines of symmetry you see in these road signs.

Basic

4) Reflect the shape about the dotted line.

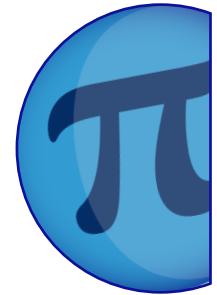5) In the diagram below the *y*-axis is a line of symmetry. Give the coordinates of point B and point D.

The Beauty Formula

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Core

1) A school employs teachers to number of children in the ratio 1:23.

a) If the school has 1100 children, how many teachers does it need?

b) If the school has 17 teachers, how many children can it take?

2) Express the following ratios in their simplest form:

a) 36:40

b) 6mm:3cm

c) 2.5m:6m

3) Express the following ratios in the form $1:n$:

a) 3:18

b) 4:10

c) 4:31

d) 4:15

4) The dimensions of a room are length 12m and width 8m. What is the ratio of:
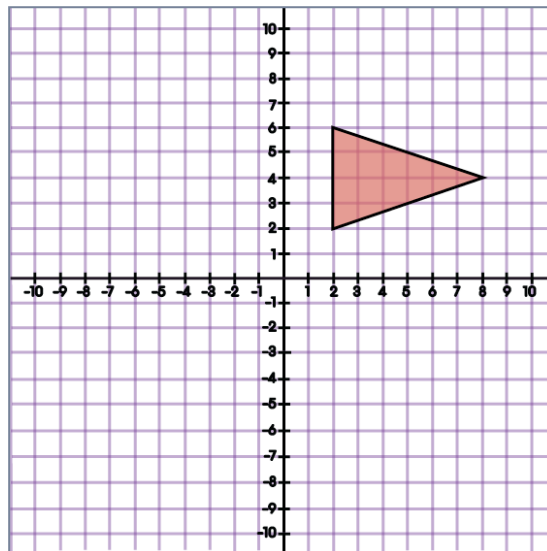
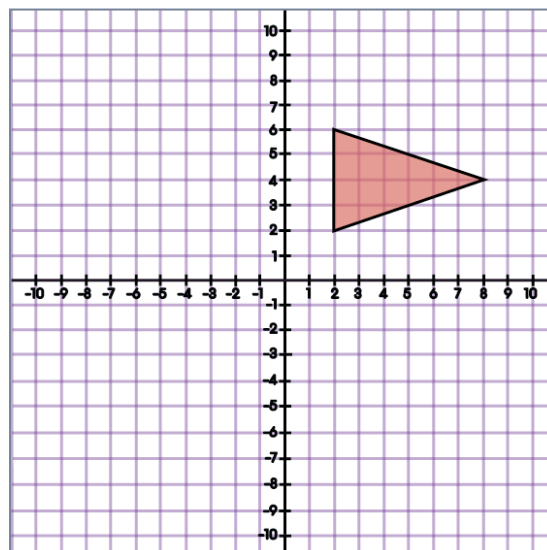a) its length to its width?

b) its width to its length?

The Beauty Formula

5) In the diagram below, reflect the triangle in the *x*-axis and in the *y*-axis.

6) In the diagram below, rotate the triangle 90° in a clockwise direction and then rotate the new triangle 180° in a clockwise direction around the origin (0,0).

The Beauty Formula

NAME: ....

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DATE: ....

Advanced

1) Express the following ratios in the form 1:n:

a) 3:18   b) 4:10   c) 4:31   d) 4:15

2) The dimensions of a room are length 12m and width 8m. What is the ratio of:

a) its length to its width?   b) its width to its length?

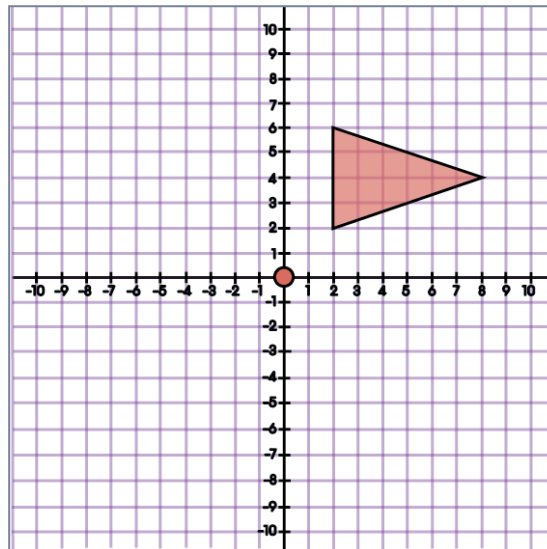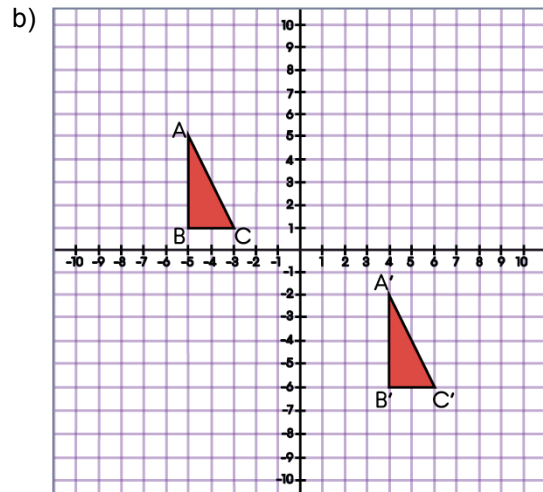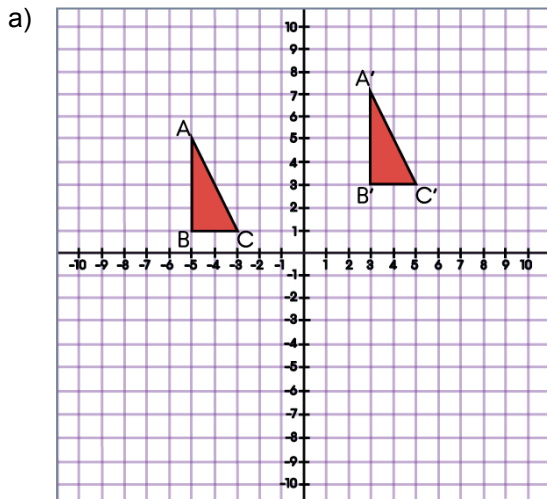3) In the diagram below, reflect the triangle in the x-axis and in the y-axis.
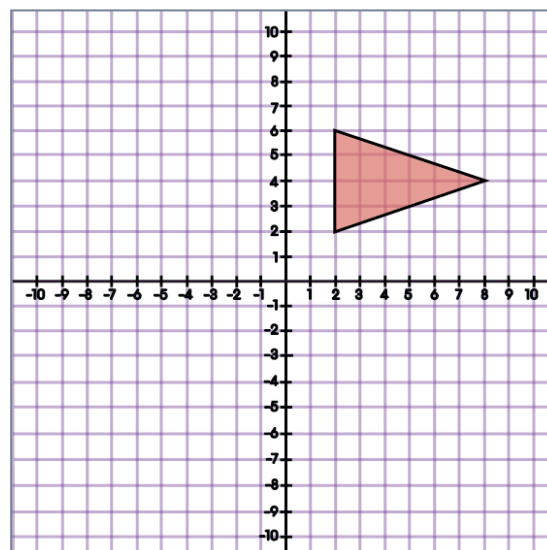
Advanced

4) In the diagram below, rotate the triangle 90° in a clockwise direction and then rotate the new triangle 180° in a clockwise direction around the origin (0,0).

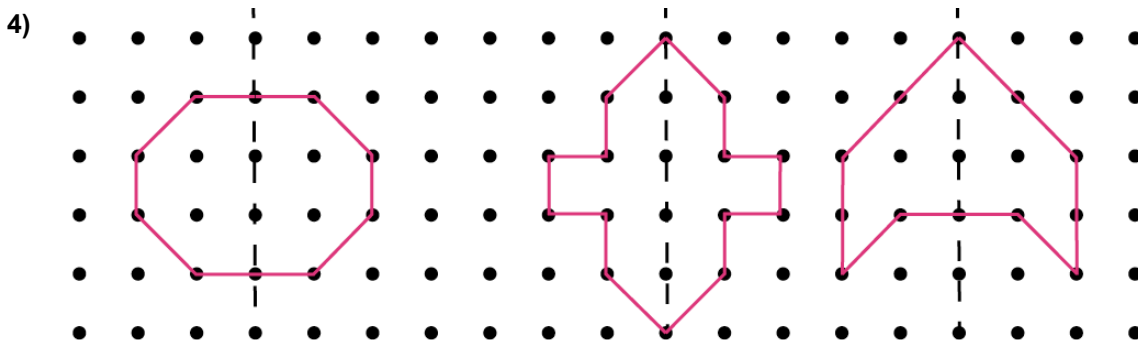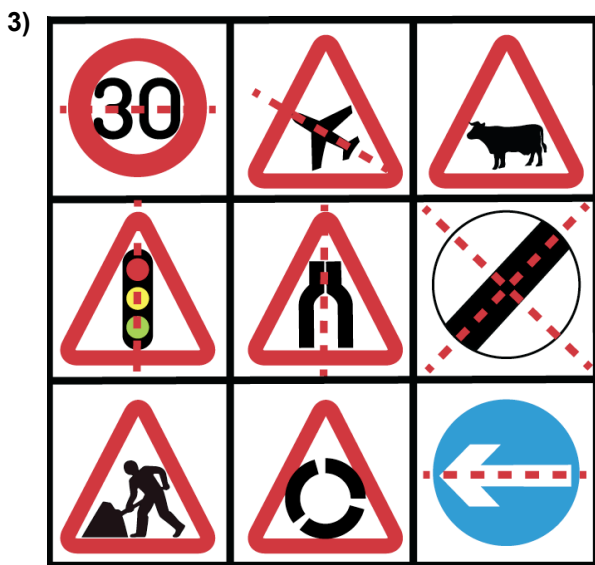5) In each of the diagrams below describe the translations that take triangle ABC to triangle A'B'C'.

a)

b)

ANSWERS

Basic

1) **18 litres**

2) **a) 48**   **b) 391**

3)

4)

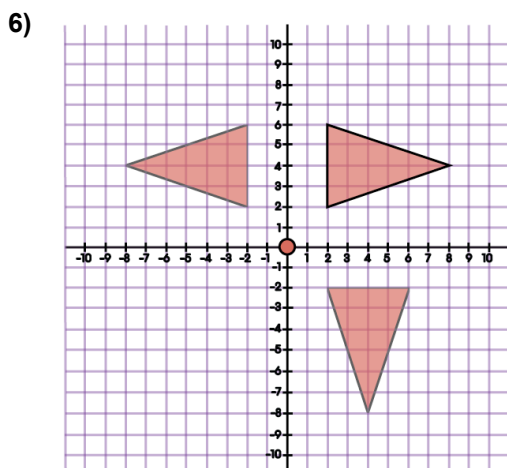5) **Point B (-7, 2); point D (7, 6).**

ANSWERS

Core

1) a) 48   b) 391

2) a) 9:10   b) 1:5   c) 5:12

3) a) 1:6   b) 1:2.5   c) 1:7.75   d) 1:3.75

4) a) 3:2   b) 2:3
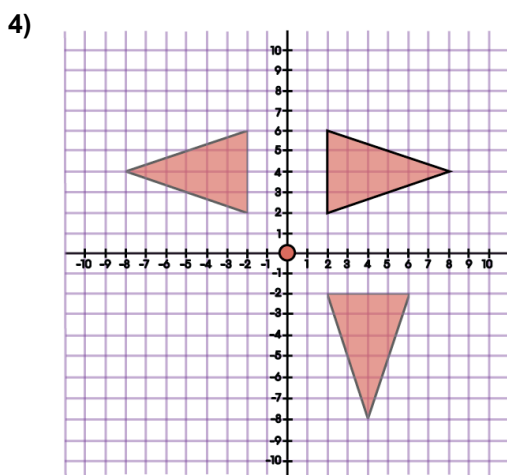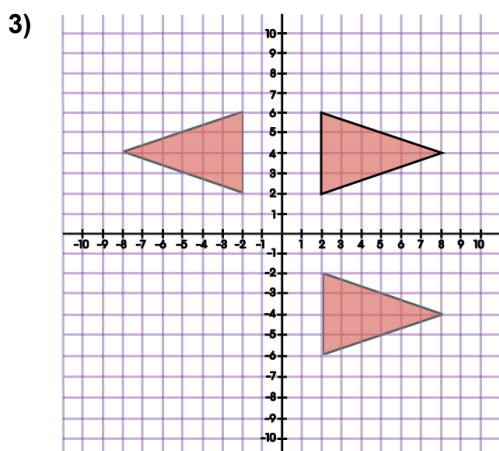
5)

6)
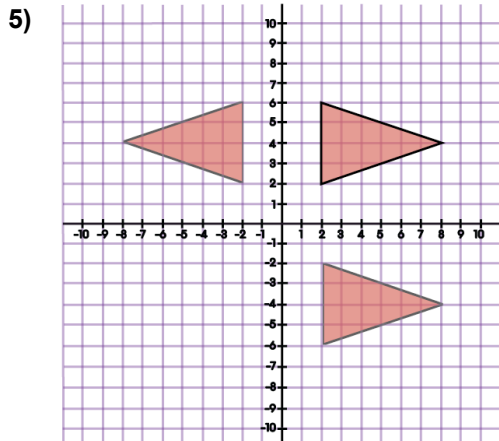
ANSWERS

Advanced

1) a) 1:6   b) 1:2.5   c) 1:7.75   d) 1:3.75

2) a) 3:2   b) 2:3

3)

4)

5) a) $\begin{pmatrix} 8 \\ 2 \end{pmatrix}$ b) $\begin{pmatrix} 9 \\ -9 \end{pmatrix}$