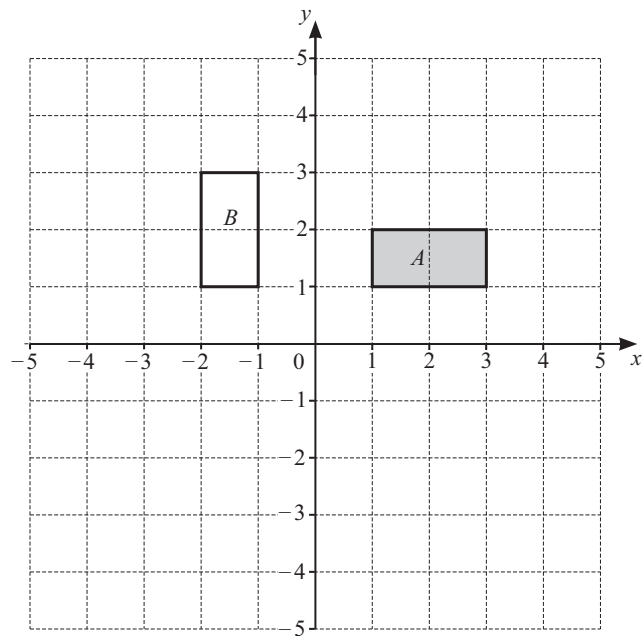


21 Shapes A and B are shown on the grid.

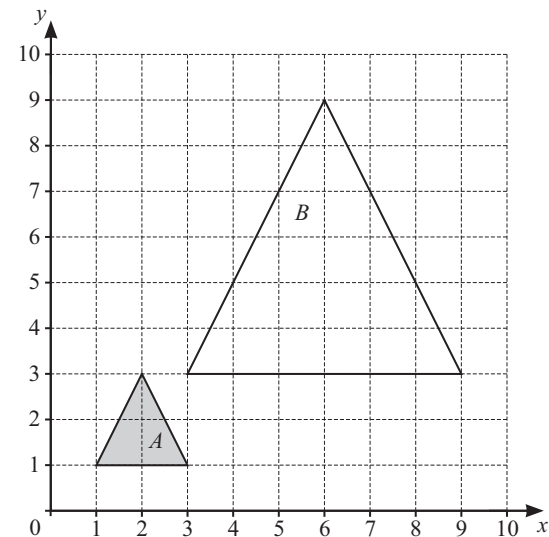


(a) Describe fully the **single** transformation that maps shape A onto shape B .

.....
 [3]

(b) Draw the image of shape A after a reflection in the line $y = -1$. [2]

22 The diagram shows triangles A and B .



Describe fully the **single** transformation that maps triangle A onto triangle B .

.....
 [3]

2 Find the largest **odd** number that is a common factor of 90 and 120.

..... [1]

8 $DE = \begin{pmatrix} \tilde{} \\ -4 \end{pmatrix}$

(a) Find $5\overrightarrow{DE}$.

$\begin{pmatrix} \\ \end{pmatrix}$ [1]

(b) Find $|\overrightarrow{DE}|$.

..... [2]

(c) D is the point $(-2, -3)$.

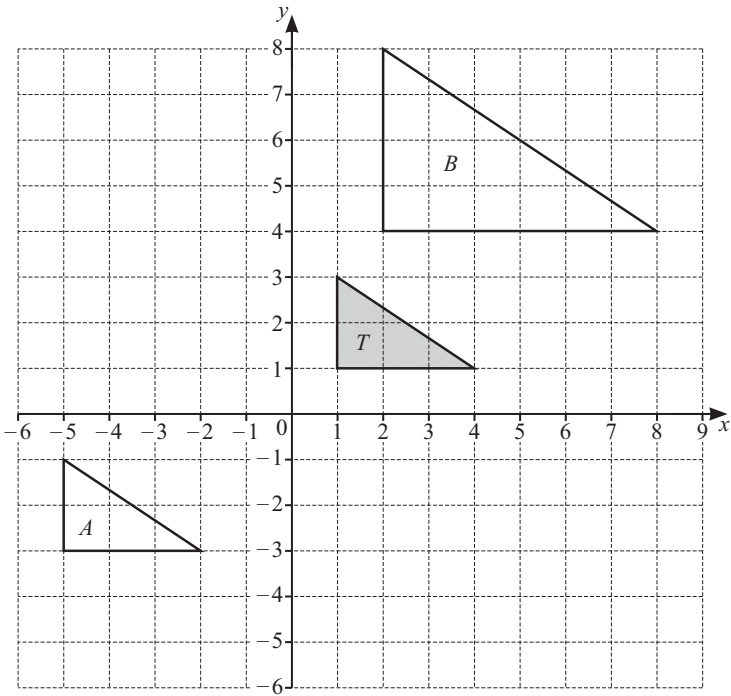
Find the coordinates of the point E .

(..... ,) [2]

20 Work out $0.1\dot{1}\dot{4} + 0.2$.
Give your answer as a fraction.

..... [3]

23



(a) On the grid, draw the image of triangle T after a rotation, 90° clockwise, centre $(0, 0)$. [2]

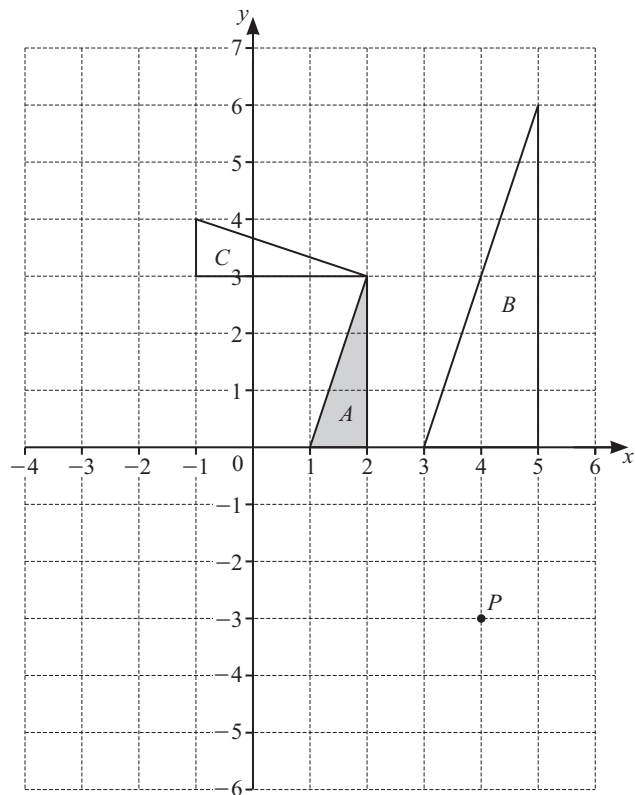
(b) Describe fully the **single** transformation that maps triangle T onto triangle A .

..... [2]

(c) Describe fully the **single** transformation that maps triangle T onto triangle B .

..... [3]

16 The diagram shows a point P and three triangles, A , B and C , on a 1 cm^2 grid.



(a) Find the area of triangle B .

..... cm^2 [1]

(b) (i) Write down the coordinates of point P .

(..... ,) [1]

(ii) Work out the coordinates of point P after a translation by the vector $\begin{pmatrix} -20 \\ 12 \end{pmatrix}$.

(..... ,) [1]

(c) Draw the image of triangle A after a reflection in the line $y = -1$. [2]

(d) Describe fully the **single** transformation that maps

(i) triangle A onto triangle B

.....
 [3]

(ii) triangle A onto triangle C .

.....
 [3]

3 In the USA, one gallon of fuel costs \$4.83 .
 In the UK, one litre of fuel costs £1.62 .

The exchange rate is £1 = \$1.215 .
 1 gallon = 3.785 litres

In which country does 1 litre of fuel cost more and by how much?
 Give your answer in dollars.

..... by \$ [3]