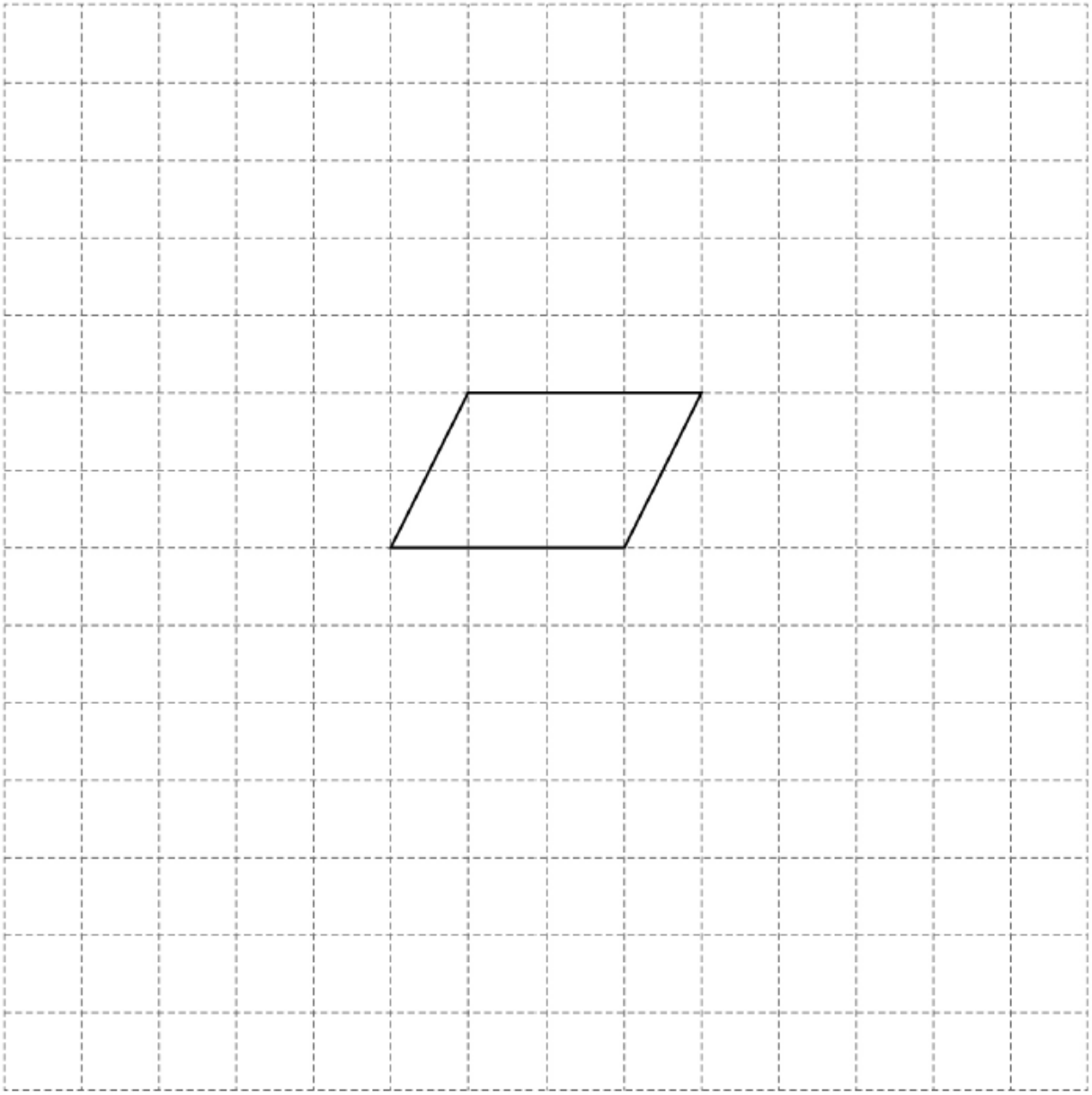
AQA – Vectors – GCSE Mathematics Paper-1

1. May/2020/Paper_1F/No.13

Here is a parallelogram.



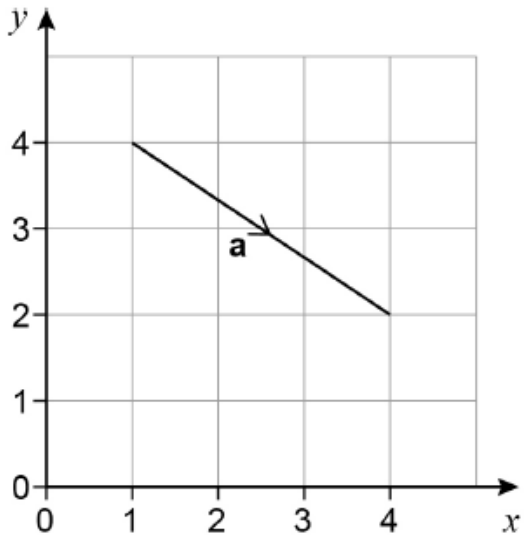
The parallelogram is translated 4 squares to the left and 3 squares up.

Draw the translated parallelogram.

[2 marks]

2. May/2020/Paper_1H/No.2

Here is vector **a**.



Circle the column vector that represents **a**.

[1 mark]

$\begin{pmatrix} 3 \\ 2 \end{pmatrix}$ $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$ $\begin{pmatrix} 3 \\ -2 \end{pmatrix}$ $\begin{pmatrix} -3 \\ -2 \end{pmatrix}$

3. June/2019/Paper_1H/No.5

(a) Write 0.000 97 in standard form.

[1 mark]

Answer _____

(b) Work out $\frac{3 \times 10^5}{4 \times 10^3}$

Give your answer as an ordinary number.

[2 marks]

_____

_____

_____

_____

_____

_____

Answer _____

4. June/2019/Paper_1H/No.17

Toby is forming and solving equations.

(a)

The product of half of a number and three more than the number is the same as the square of the number

Toby uses y to represent the number.

Write an equation that Toby could form.

[2 marks]

Answer _____

(b) Toby forms another equation.

$$x = \frac{9}{8x}$$

He wants to work out the values of x.

Here is his working.

$$x = \frac{9}{8x}$$

$$8x^2 = 9$$

$$8x = 3 \text{ or } 8x = -3$$

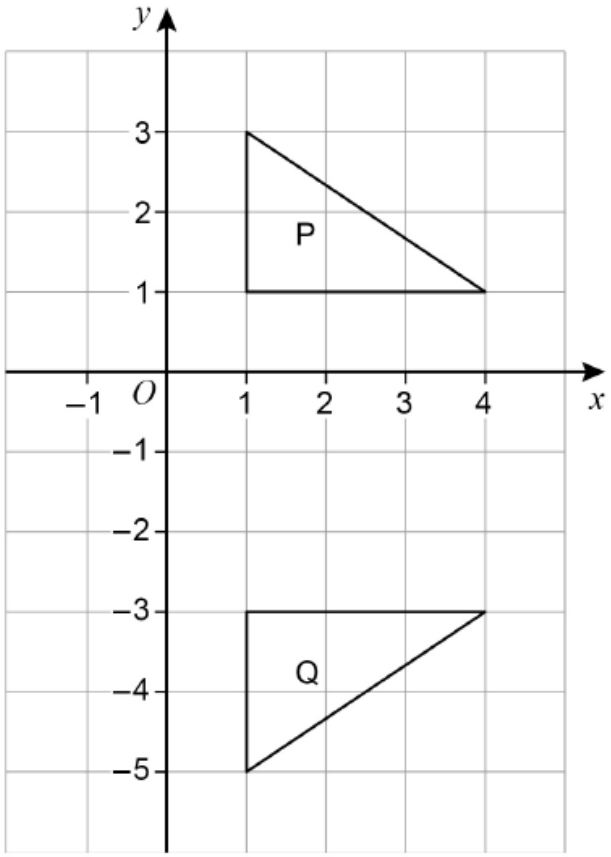
$$x = \frac{3}{8} \text{ or } x = -\frac{3}{8}$$

What error has he made in his working?

[1 mark]

5. Nov/2019/Paper_1H/No.5

(a) Here are two triangles, P and Q.



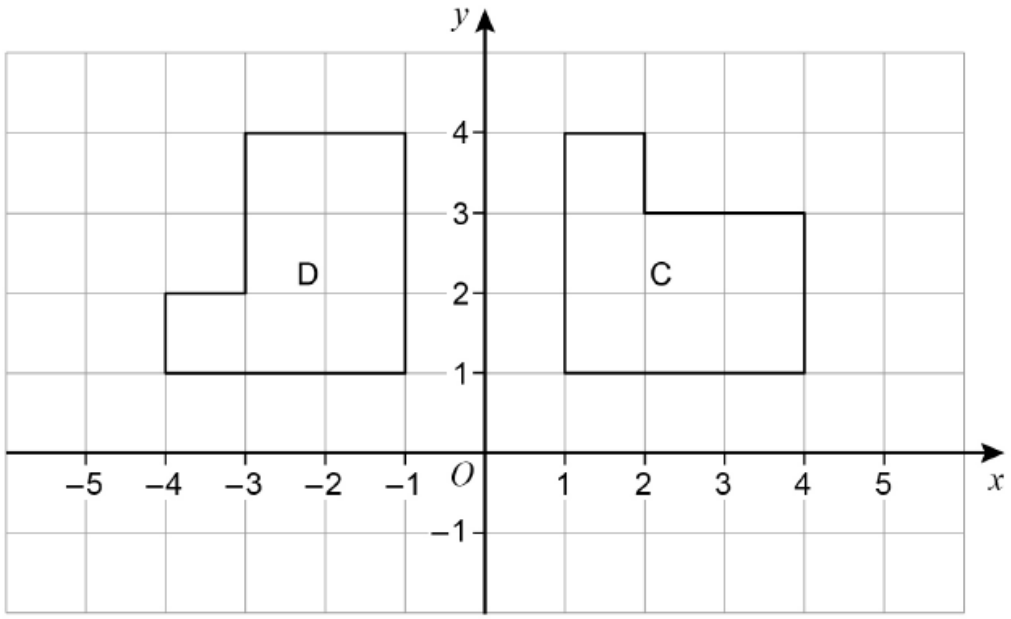
Here is a statement.

A transformation that maps P to Q is a reflection in the line $x = -1$

Make **one** criticism of the statement.

[1 mark]

(b) Here are two shapes, C and D.



Here is a statement.

> A transformation that maps C to D is a rotation through 90° anticlockwise.

Make **one** criticism of the statement.

[1 mark]

6. Nov/2019/Paper_1H/No.17

$\mathbf{a} = \begin{pmatrix} -3 \\ 2 \end{pmatrix}$ and $\mathbf{b} = \begin{pmatrix} 1 \\ -5 \end{pmatrix}$

Work out $\mathbf{a} - 3\mathbf{b}$

Circle your answer.

[1 mark]

$\begin{pmatrix} -6 \\ 17 \end{pmatrix}$ $\begin{pmatrix} -6 \\ -13 \end{pmatrix}$ $\begin{pmatrix} 0 \\ 17 \end{pmatrix}$ $\begin{pmatrix} 0 \\ -13 \end{pmatrix}$