3.1 T2 Reflection

A ***reflection*** is the second of the four ***transformations*** to be studied.

In general, when a point or shape is transformed, the result is referred to as an *image*.

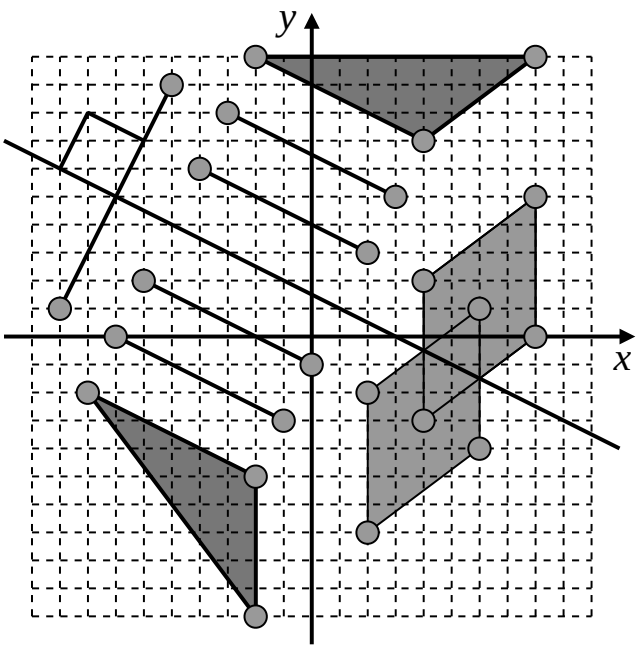
There are three key properties to keep in mind regarding reflections:

Ref 1 The perpendicular distance of any point from the mirror is equal to the perpendicular distance of the image from the mirror.

Ref 2 A line drawn from any point to its image passes through the mirror at 90°.

Ref 3 A line parallel to the mirror has a reflection that is also parallel to the mirror.

It is useful to have a *set square* to help answer questions involving reflection.



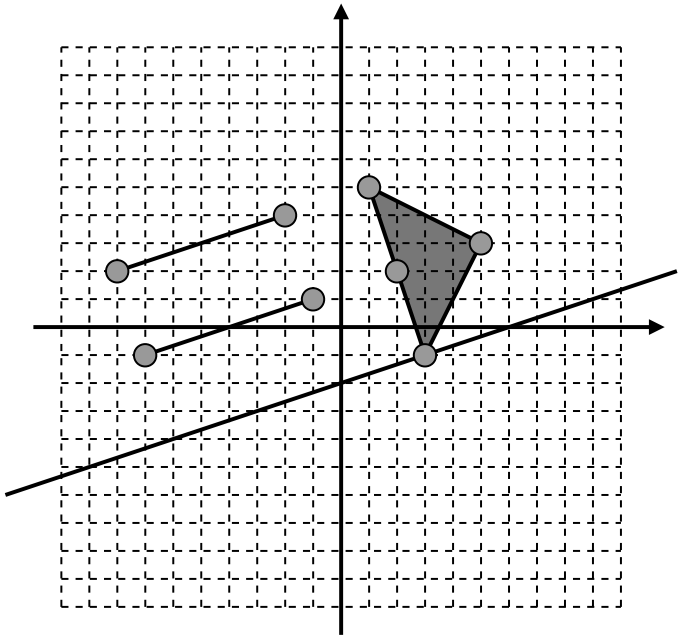
The mirror, being a straight line, has an equation of the form $y = m\,x + c$.

3.2 Example

What is the equation of the mirror line, shown above ?

3.3 Exercise

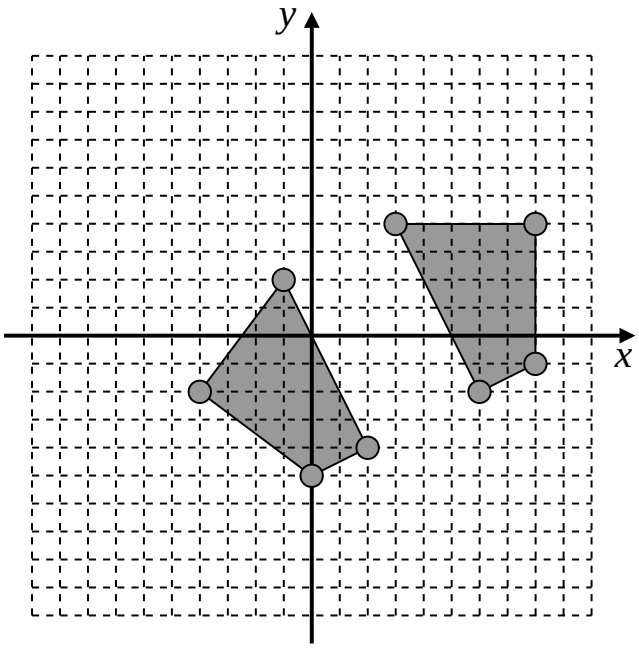
Question 1



(i) Reflect each point, line and shape in the mirror line.

(ii) Write down the equation of the mirror line.

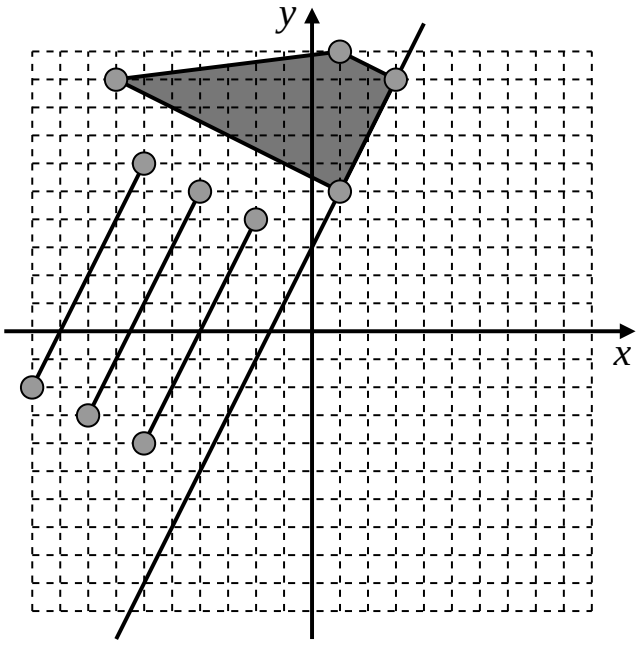
Question 2



(i) Draw in the mirror.

(ii) Write down the equation of the mirror in the form $y = m\,x + c$

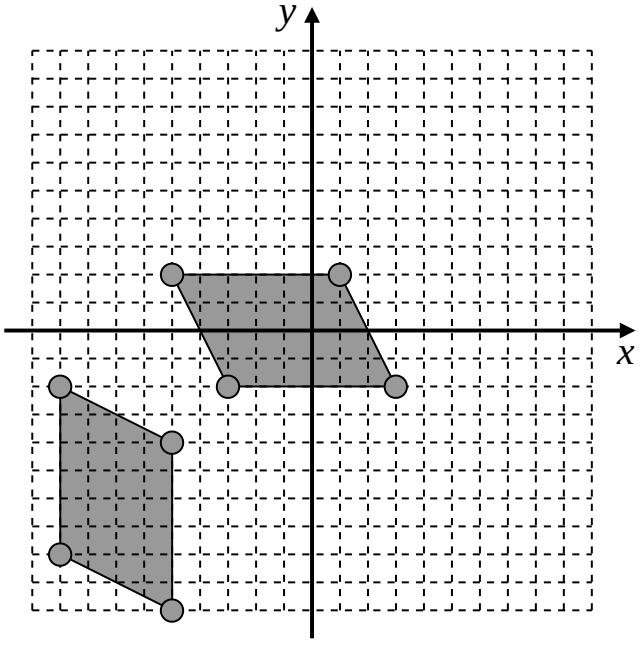
Question 3



(i) Reflect each point, line and shape in the mirror line.

(ii) Write down the equation of the mirror line.

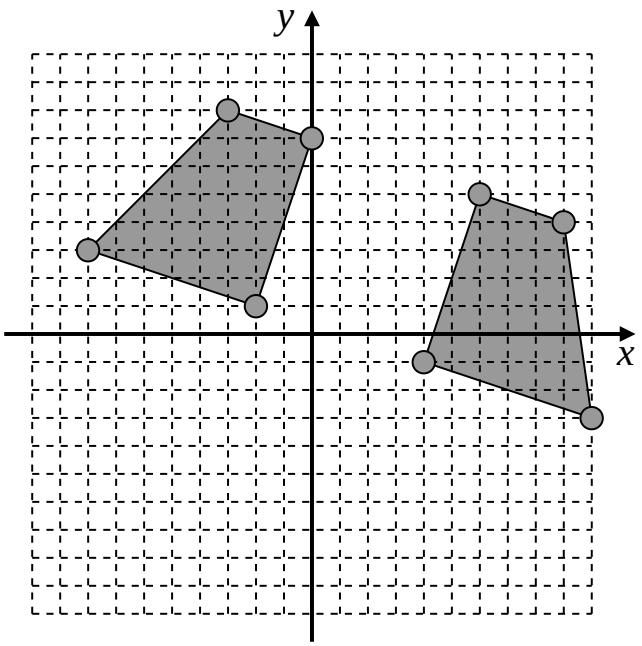
Question 4



(i) Draw in the mirror.

(ii) Write down the equation of the mirror in the form $y = m\,x + c$.

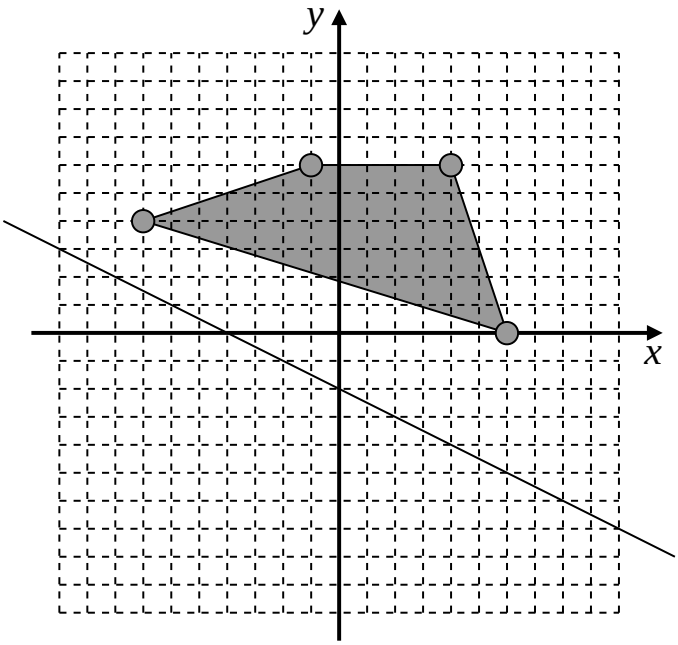
Question 5



(i) Draw in the mirror.

(ii) Write down the equation of the mirror in the form $y = m\,x + c$.

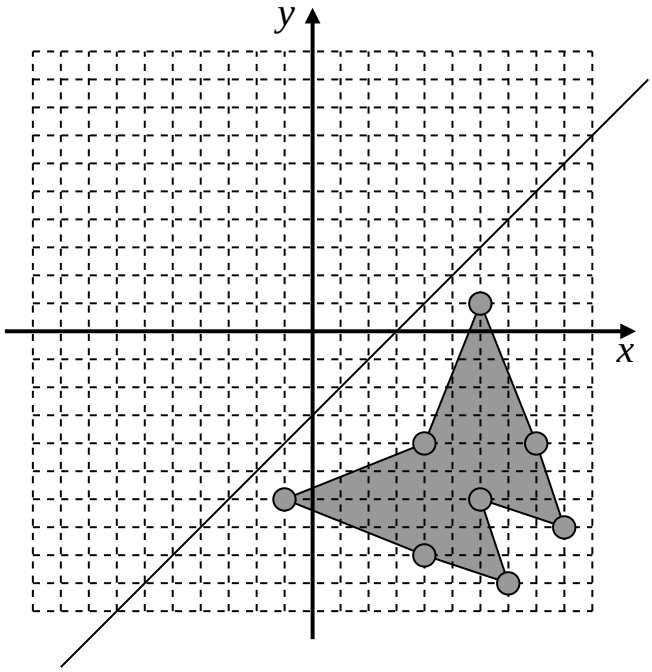
Question 6



(i) Reflect the shape in the mirror.

(ii) Write down the equation of the mirror in the form $y = m\,x + c$.

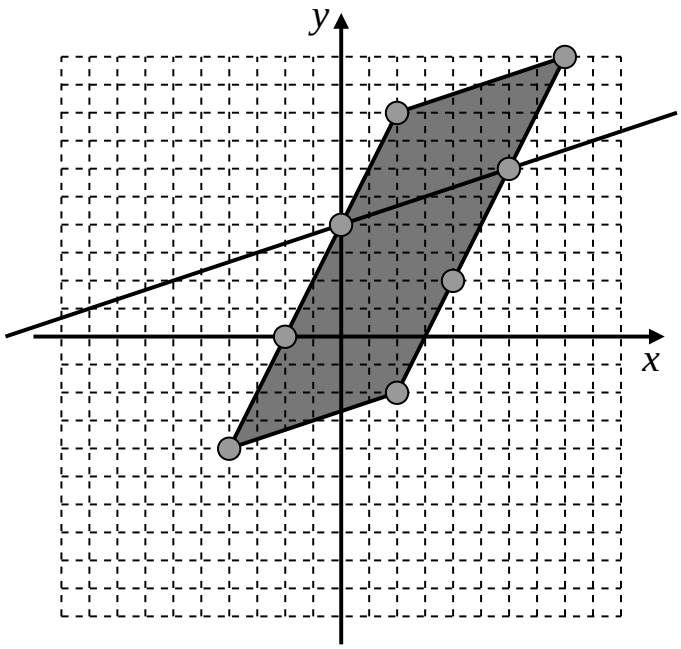
Question 7



(i) Reflect the shape in the mirror.

(ii) Write down the equation of the mirror.

Question 8



(i) Reflect the shape in the mirror.

(ii) Write down the equation of the mirror.