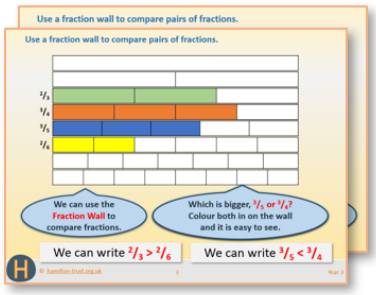
Week 9, Day 5

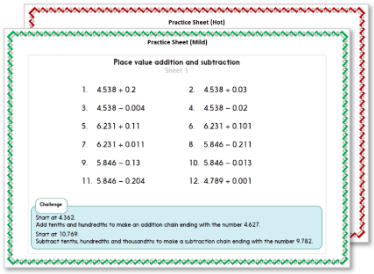
Reflect a shape and write the new co-ordinates

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.

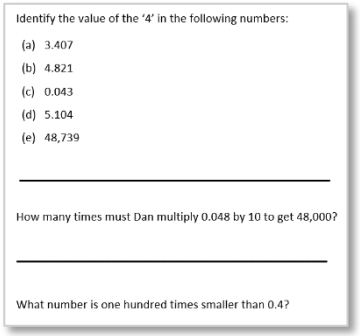


2. Tackle the questions on the **Practice Sheet**.
There might be a choice of either Mild (easier) or Hot (harder)!
Check the answers.



3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**

4. Have I mastered the topic? A few questions to **Check your understanding**.
Fold the page to hide the answers!

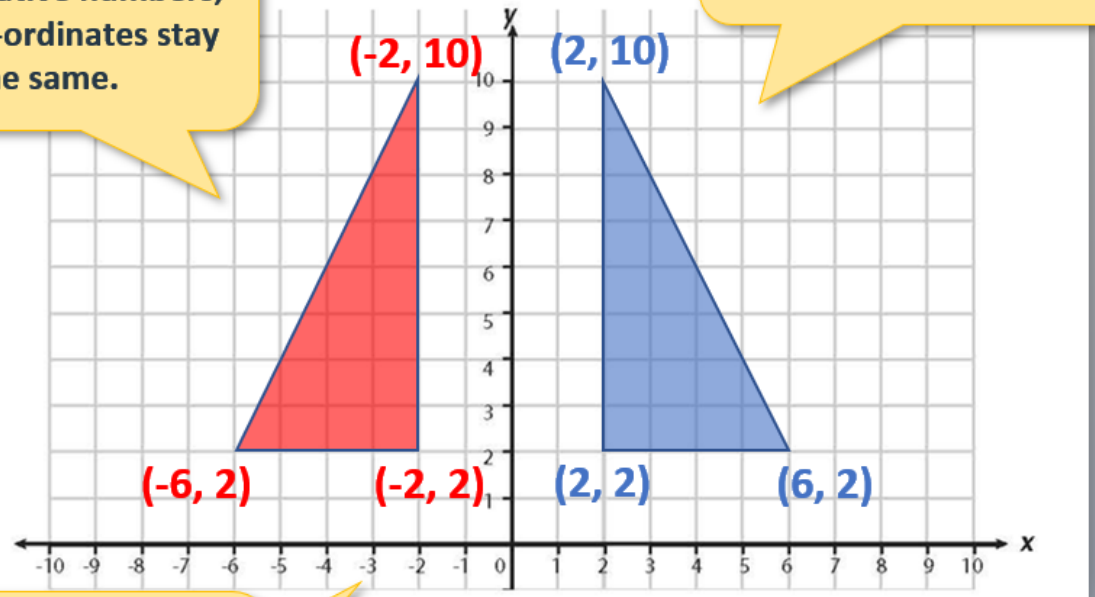


Learning Reminders

Reflect a shape and write the new co-ordinates.

The x-coordinates are now negative numbers, the y-co-ordinates stay the same.

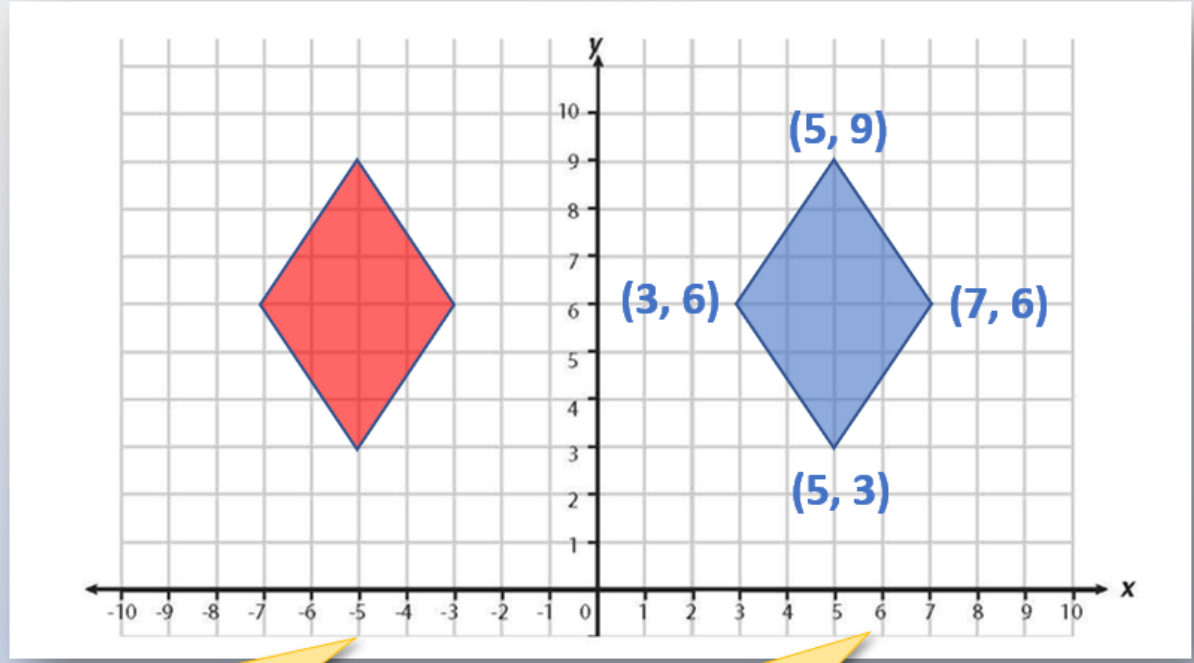
We can pretend that there is a mirror on the y-axis to reflect this triangle.



Checking carefully that each point is the same distance away from the y-axis as it was originally, and that it looks to be the same shape.

Learning Reminders

Reflect a shape and write the new co-ordinates.



You can check with a small mirror on the y axis to check the rhombus is in the right place.

Write down the co-ordinates of the reflected shape.

Answers

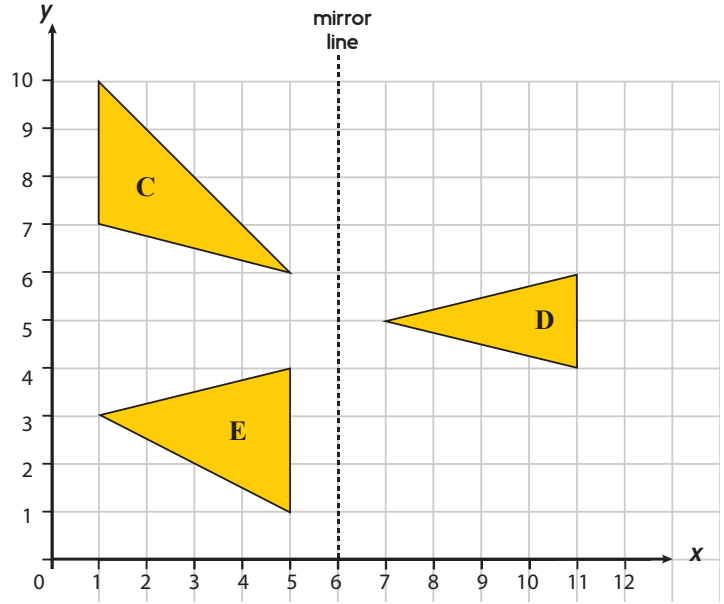
(-5, 9) (-5, 3)

(-7, 6) (-3, 6)

Practice Sheet Mild

Pattern of reflections

Look at triangles C, D and E.



1. Draw the reflection of each triangle, across the mirror line shown, to give triangles C1, D1 and E1.
2. Mark pairs of vertices (corners) that are reflections of each other. Use crosses, and a different colour for each pair. You should be able to find 9 pairs.
3. In the table, write the co-ordinates of the pairs of vertices you marked.

Colour of the two crosses	Vertex in shape on left	Vertex in shape on right
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)

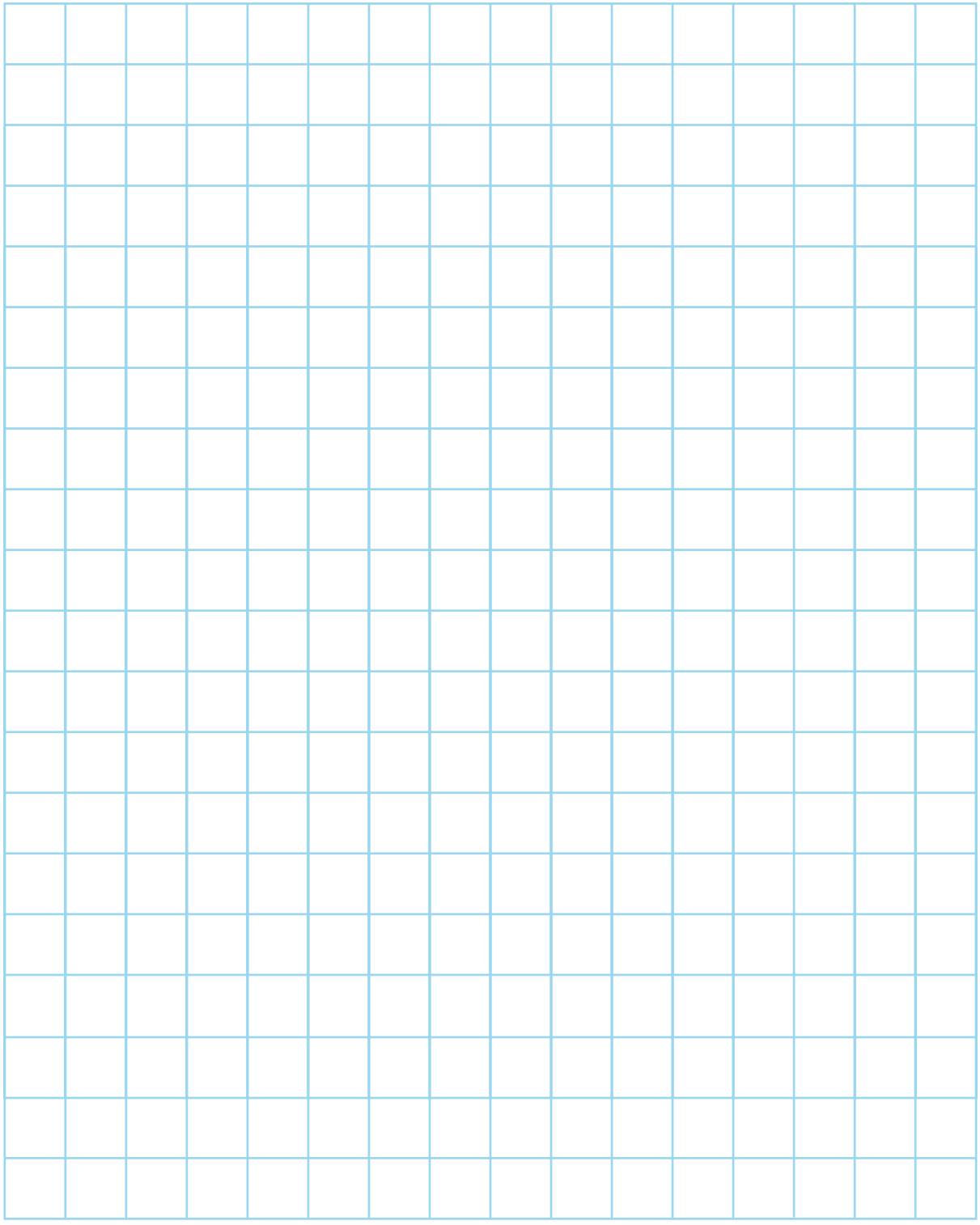
Did you notice anything interesting about each pair of co-ordinates?
Explain any ideas carefully...

Challenge

Triangle F has vertices at (8, 0), (6, 3) and (9, 4).
Can you predict where its reflection, F1 will be? Draw it to check.

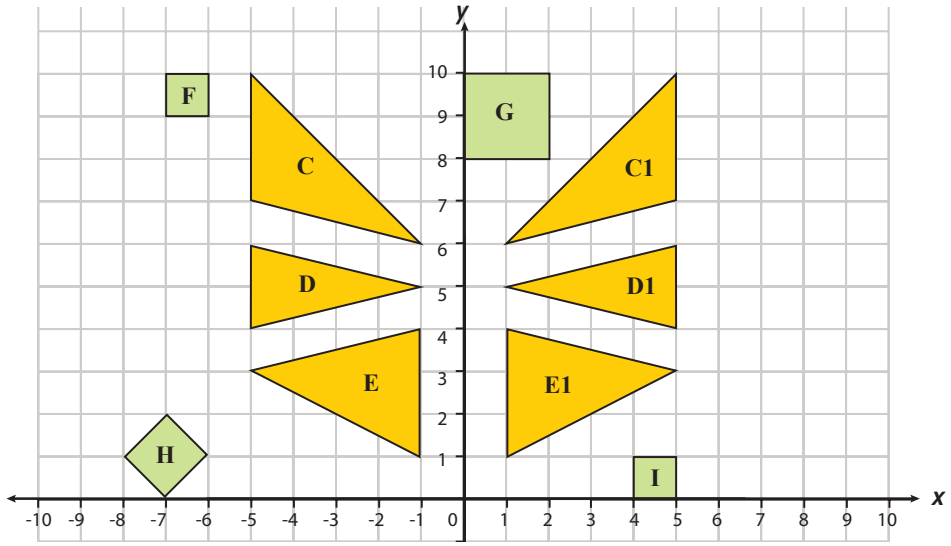
Practice Sheet Mild

Pattern of reflections



Practice Sheet Hot

Pattern of reflections



1. Look at triangles: C, D and E. They have been reflected across the *y*-axis to give triangles C1, D1 and E1. Mark the pairs of vertices (corners) which are reflections of each other. Use crosses, and a different colour for each pair. How many pairs should there be?

2. In the table, write the co-ordinates of the pairs of vertices you marked.

Colour of the two crosses	Vertex in shape on left	Vertex in shape on right
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)
	(,)	(,)

What do you notice about each co-ordinate and its reflection?

3. Look at squares F, G, H and I. Can you predict the co-ordinates of their reflections across the *y*-axis?

Challenge

- Draw two more polygons and their reflections. Use the spare space on the grid.
- Name your pairs of polygons with letters, J and J1 and K and K1.
- Write down the co-ordinate pairs for each matching pair of vertices.

Practice Sheet Hot

Pattern of reflections