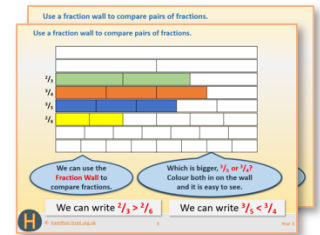


Week 9, Day 3

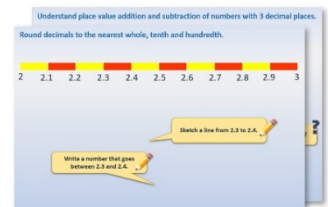
Plot co-ordinates and draw polygons in two quadrants

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

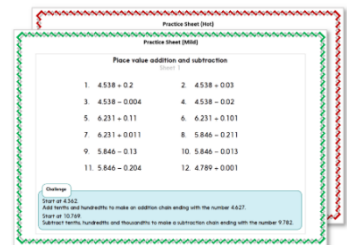
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



OR start by carefully reading through the **Learning Reminders**.



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

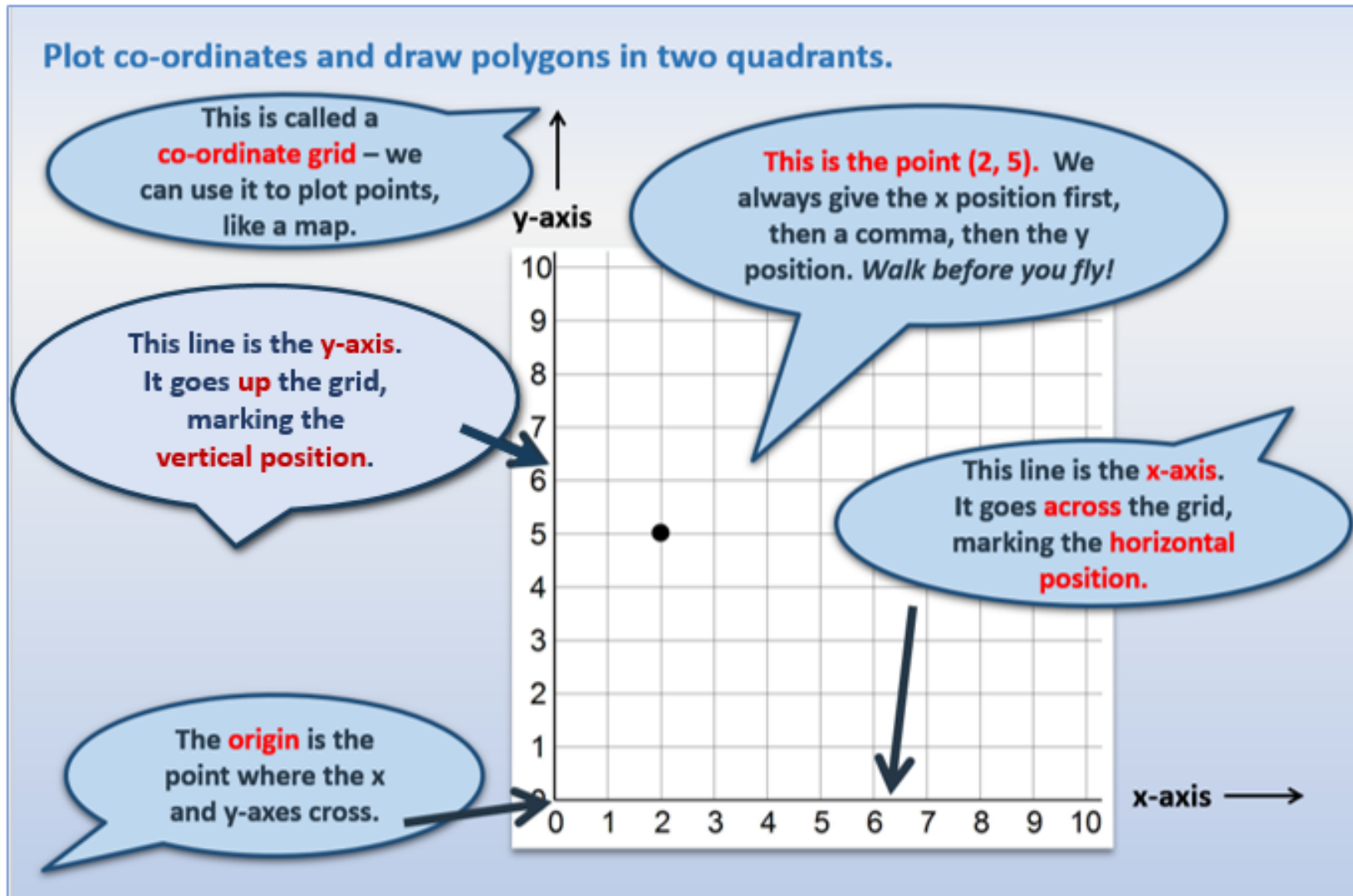


3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



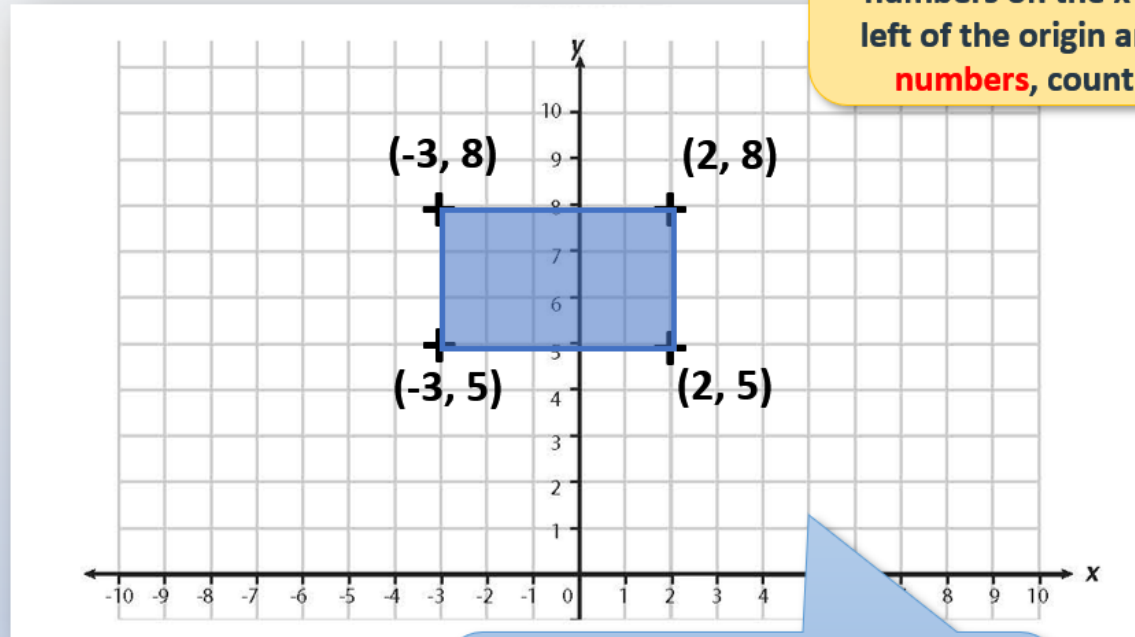
4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation**...

Learning Reminders



Learning Reminders

Plot co-ordinates and draw polygons in two quadrants.

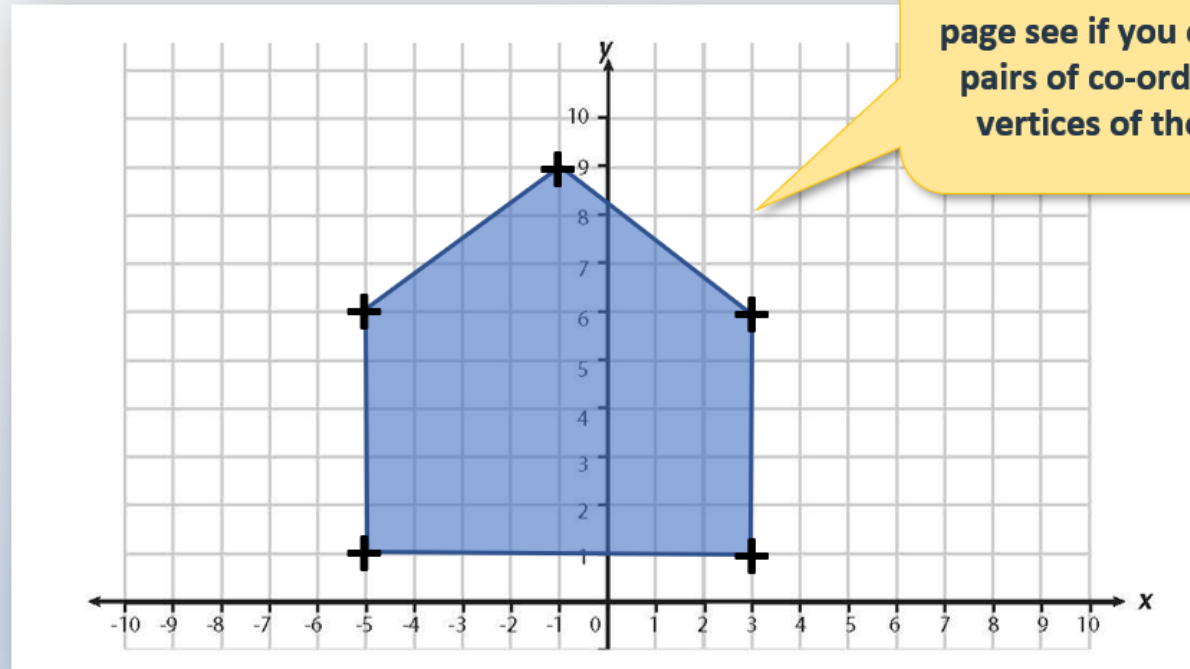


We can extend the grid into a **second quadrant**. Look how the numbers on the x-axis to the left of the origin are **negative numbers**, counting back.

Notice how the first co-ordinate of the two vertices on the left side of the rectangle are negative numbers.

Learning Reminders

Plot co-ordinates and draw polygons in two quadrants.



Without looking at the next page see if you can match the pairs of co-ordinates to the vertices of the pentagon.

$(-1, 9)$

$(-5, 1)$

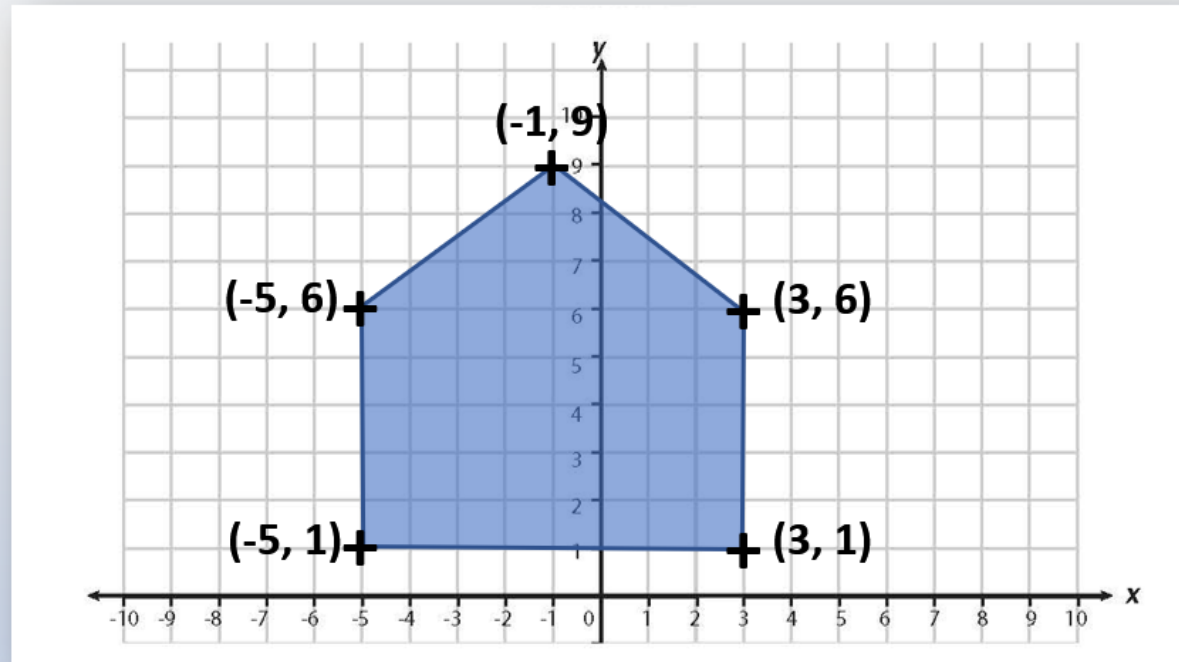
$(3, 1)$

$(3, 6)$

$(-5, 6)$

Learning Reminders

Plot co-ordinates and draw polygons in two quadrants.



Practice Sheet Mild

Plotting co-ordinates

Use a ruler to draw axes for each question, like the ones used earlier in the lesson.

- Plot these points to make squares. Use a different colour for each.
 - $(1, 2), (1, 7), (6, 2), (6, 7)$
 - $(-4, 0), (-4, 4), (0, 0), (0, 4)$
 - $(-8, 2), (-2, 2), (-2, 8), (-8, 8)$
 - $(-1, 9), (-1, 5), (3, 9), (3, 5)$
- Plot these points to make rectangles. Use a different colour for each.
 - $(0, 7), (9, 3), (9, 7), (0, 3)$
 - $(-4, 3), (-4, 0), (0, 3), (0, 0)$
 - $(-6, 4), (1, 8), (1, 4), (-6, 8)$
 - $(7, 9), (-1, 5), (7, 5), (-1, 9)$
- Plot the three points. Work out the fourth point to make a square. Write down its co-ordinates. Draw the square. Use a different colour for each.
 - $(-1, 2), (1, 2), (1, 0), (\quad , \quad)$
 - $(-2, 9), (1, 9), (1, 6), (\quad , \quad)$
 - $(-1, 7), (-1, 3), (3, 3), (\quad , \quad)$
 - $(-3, 1), (-7, 5), (-3, 5), (\quad , \quad)$

Challenge

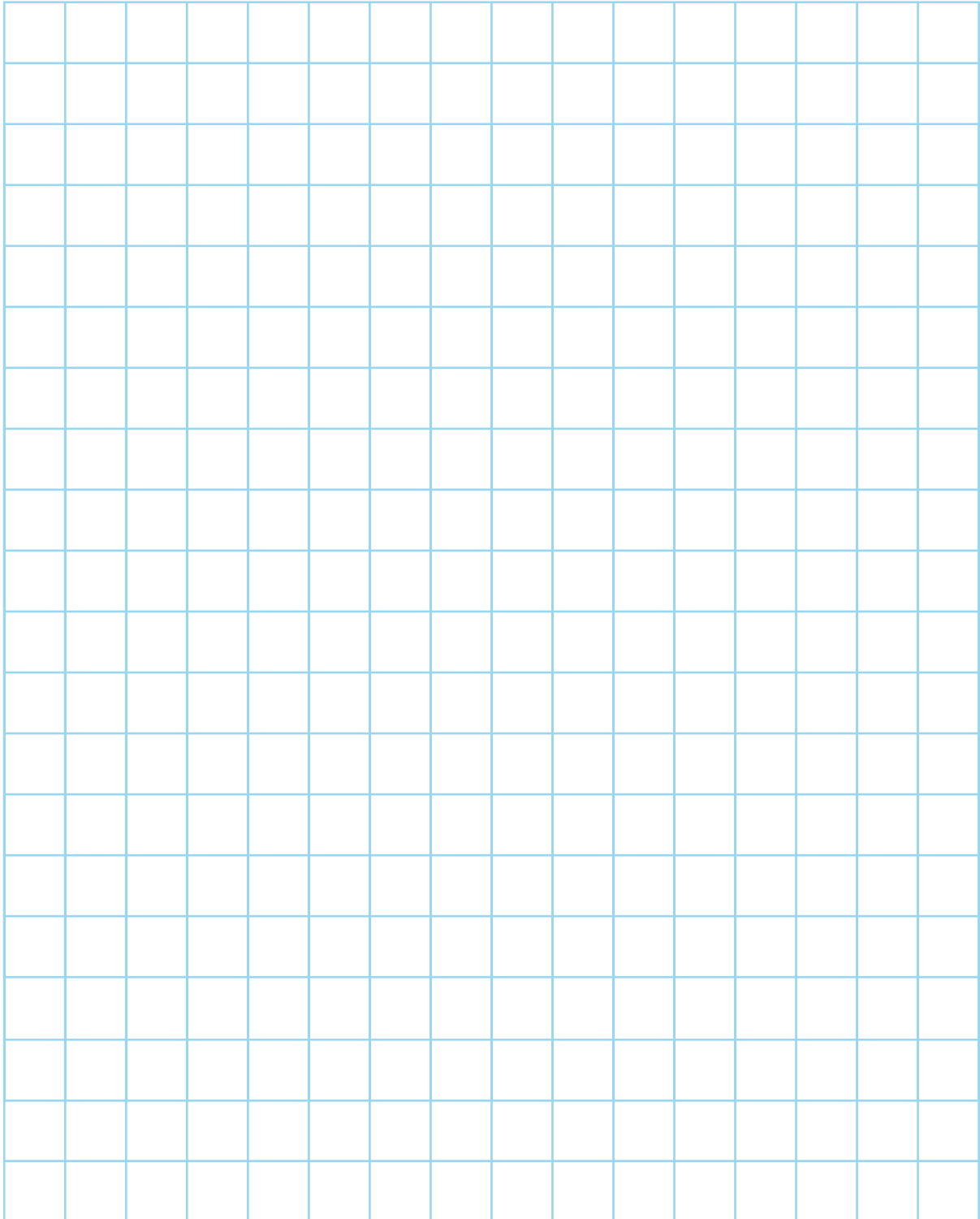
Plot the two points. Work out the two other points to make a square. Write down their co-ordinates. Draw the square.
 $(-2, 1), (4, 1), (\quad , \quad), (\quad , \quad)$

Are there any other possibilities?

Plot and draw as many as you can, using a different colour for each.

Practice Sheet Mild

Plotting co-ordinates



Practice Sheet Hot

Polygon co-ordinates

Use a ruler to draw axes for each question, like the ones used earlier in the lesson.

- Plot the three points. Work out the fourth point to make a square.
Write down its co-ordinates. Draw the square.
Use a different colour for each.
 - $(-1, 2), (1, 2), (1, 0), (\quad, \quad)$
 - $(-2, 9), (1, 9), (1, 6), (\quad, \quad)$
 - $(-1, 7), (-1, 3), (3, 3), (\quad, \quad)$
 - $(-3, 5), (-7, 1), (-7, 5), (\quad, \quad)$
- Plot three points and work out the fourth point to make a rectangle.
Write down its co-ordinates. Draw the rectangle.
Use a different colour for each.
 - $(-4, 5), (7, 6), (-4, 6), (\quad, \quad)$
 - $(4, 2), (-3, 2), (4, 4), (\quad, \quad)$
 - $(-6, 6), (1, 6), (1, 10), (\quad, \quad)$
 - $(5, 1), (10, 1), (5, 4), (\quad, \quad)$
- Plot and join these points. Use a different colour for each.
Write what each polygon is.
 - $(-2, 5), (1, 4), (1, 6), (4, 5)$
 - $(7, 2), (8, 3), (-2, 3), (-1, 4)$
 - $(-6, 6), (-6, 8), (1, 7), (2, 8), (1, 9),$
 - $(-1, 9), (2, 9), (3, 1), (2, 0), (-1, 0), (-2, 1)$

Challenge

Plot a trapezium and write down all its co-ordinates.
Now try this again. This time you are not allowed to use the same y value twice.
If you managed this with the first one, draw a trapezium that does not use the same x or y value twice...

Practice Sheet Hot

Polygon co-ordinates

