

Mathematics

Ratio and proportion in geometry II

Lesson 6 of 8

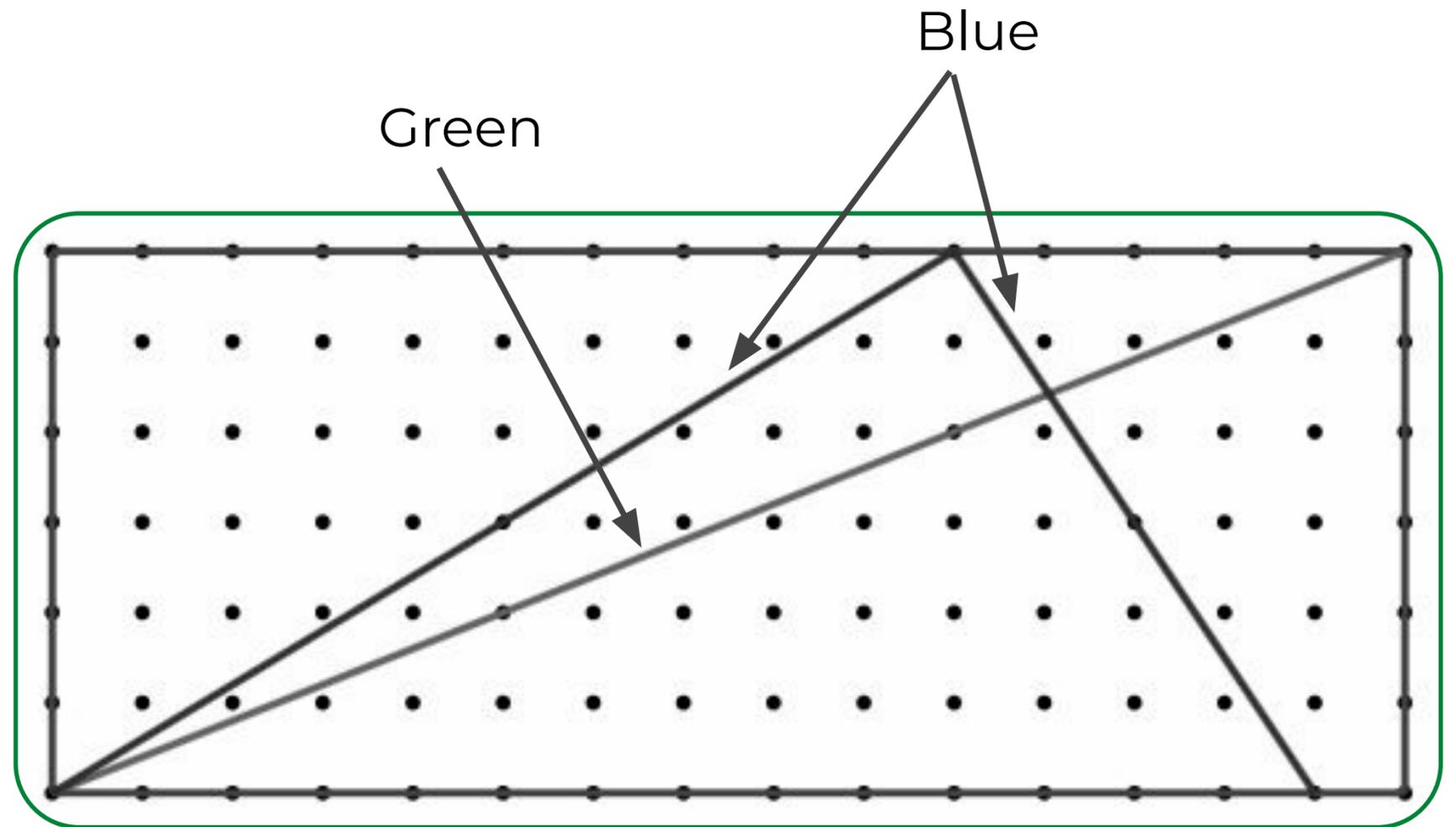
Miss Kidd-Rossiter



Try this

Without a ruler, how could you locate the point that is exactly

- half way along the green line?
- one third of the way along the long blue line?
- three quarters of the way along the shorter blue line?



Connect

We can express parts of line segments by the ratio of their lengths.

Work out the following ratios:

$$AB : AC$$

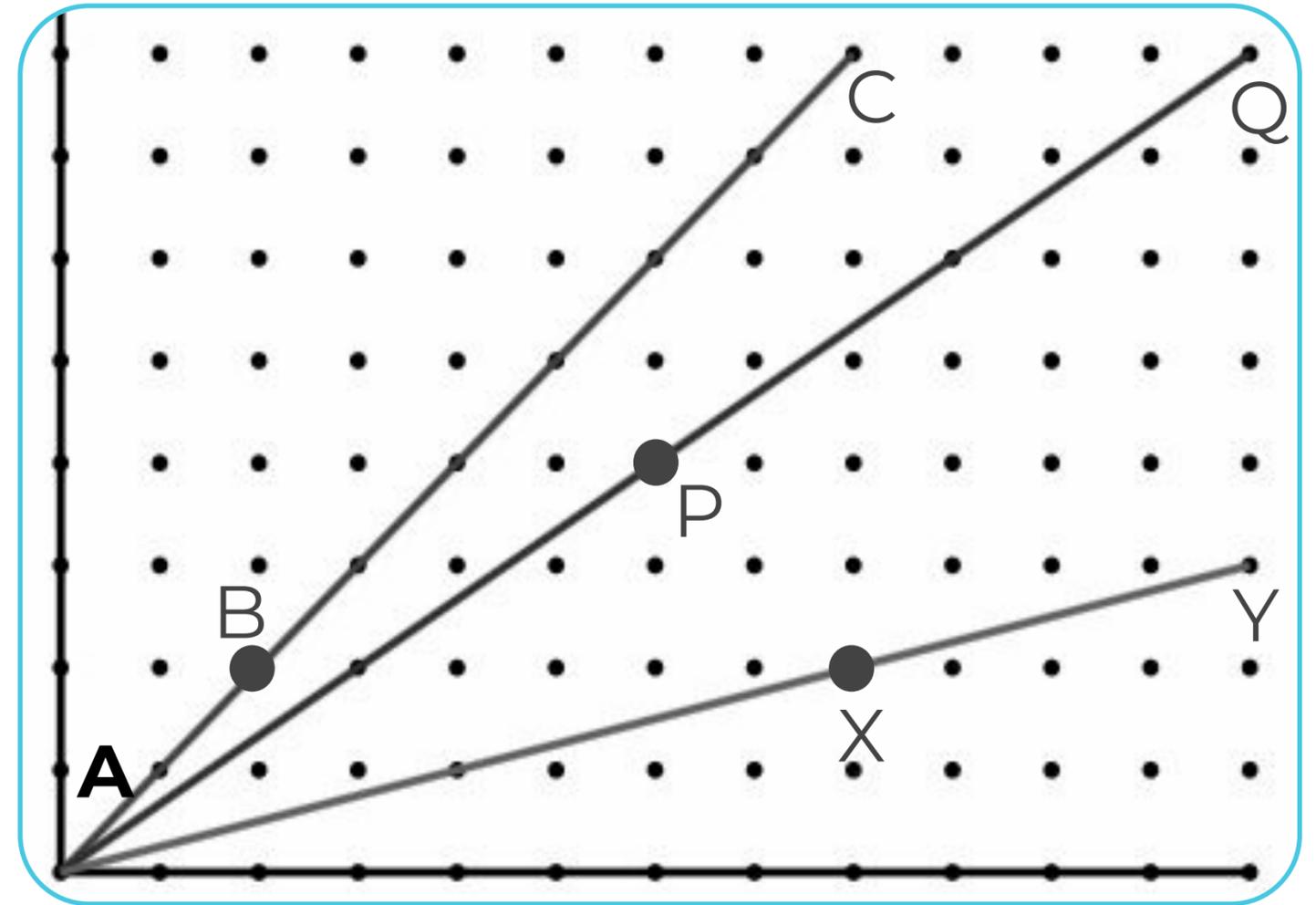
$$AP : AQ$$

$$AX : AY$$

$$AB : BC$$

$$AP : PQ$$

$$AX : XY$$

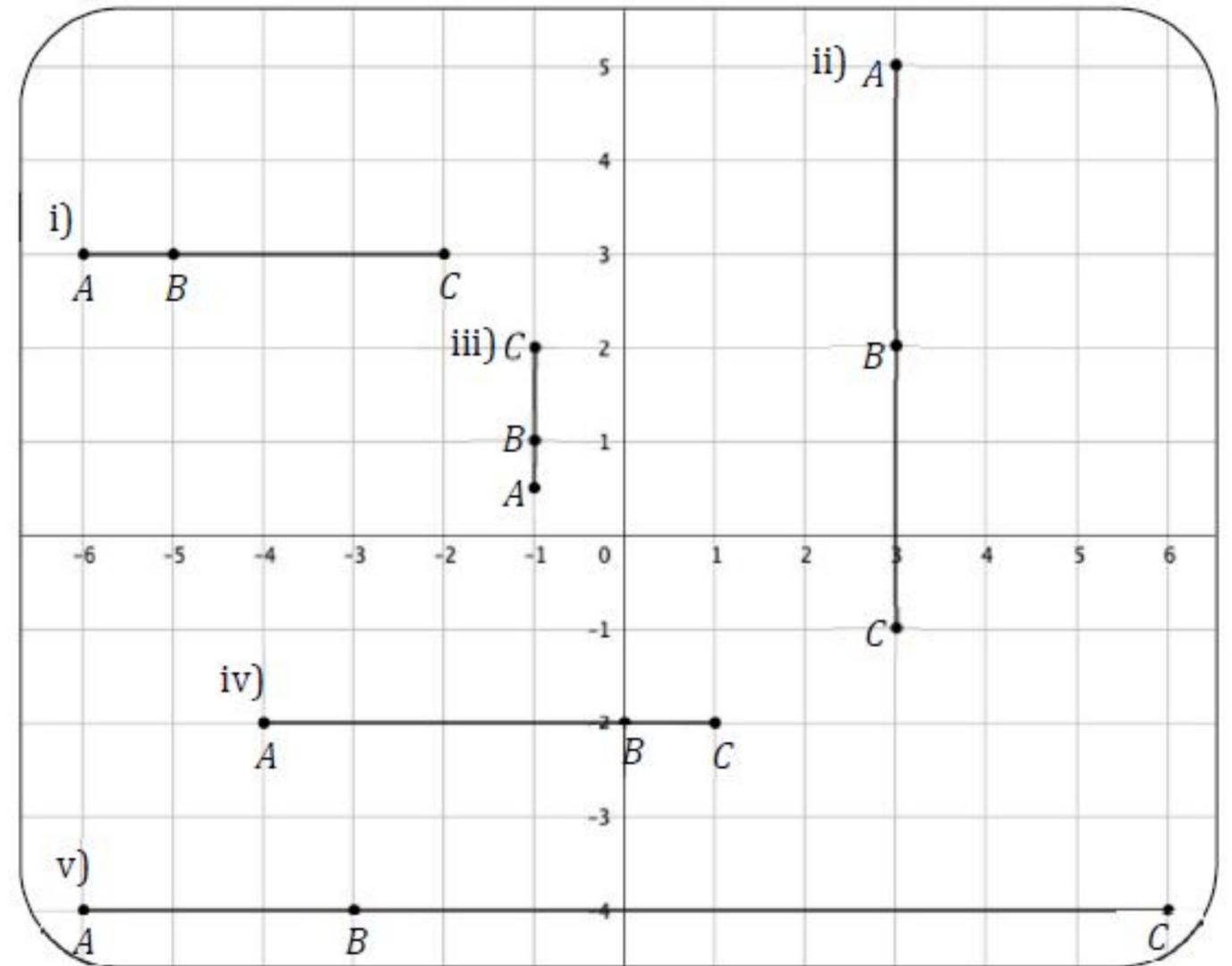


Independent task

1. There are 5 horizontal and vertical line segments on the grid.

For each line segment, find the following ratios in their simplest form.

- a. $AB : AC$
- b. $AB : BC$
- c. $BC : AC$
- d. $BC : AB$



Independent task

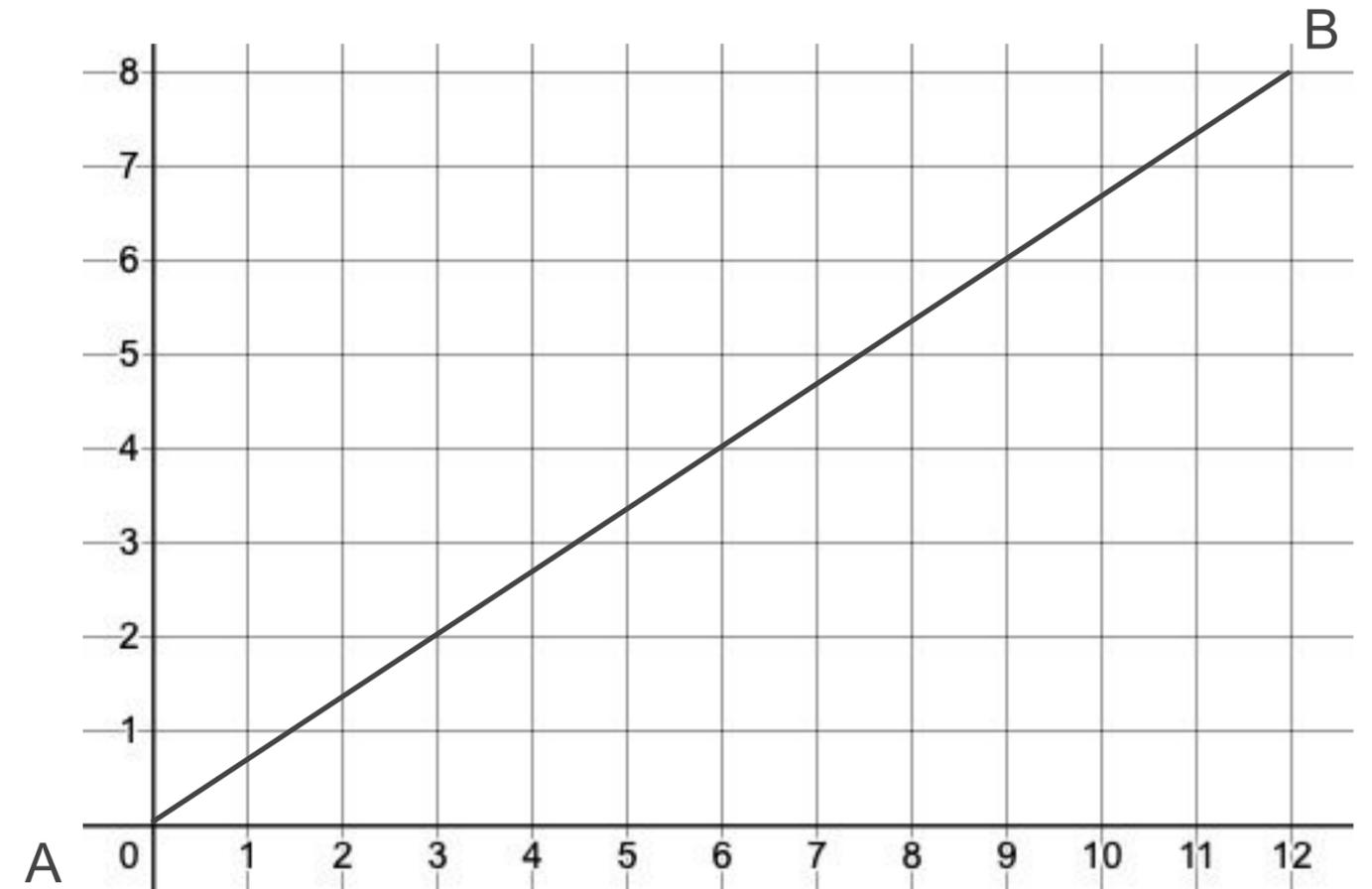
2. Show on the grid

a. Point P, which is the midpoint of the line AB

b. Point Q, so that AQ is $\frac{1}{4}$ of AB

c. Point R, so that $AR : RB = 3 : 1$

What are the coordinates of P, Q and R?



Explore

Yasmin

Point B has coordinates $(10, 8)$.
So the point half way along AB will have coordinates $(5, 4)$.

Do you agree with Yasmin's reasoning?

