Multiply Fractions by Integers

Reasoning and Problem Solving

There are 9 lamp posts on a road. There is $4\frac{3}{8}$ of a metre between each lamp post.

What is the distance between the first and last lamp post?

Use pattern blocks, if is equal to 1 whole, work out what fraction the other shapes represent.

Use this to calculate the multiplications.

Give your answers in their simplest form.

 × 5 =

 × 5 =

 × 5 =

Eva and Amir both work on a homework project.

Eva

I spent $4\frac{1}{4}$ hours a week for 4 weeks doing my project.

I spent $2\frac{3}{4}$ hours a week for 5 weeks doing my project.

Amir

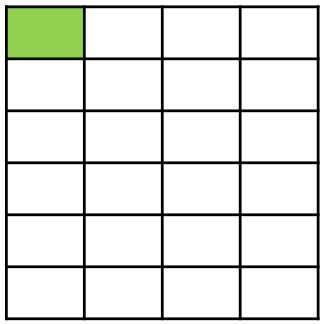
Who spent the most time on their project?

Explain your reasoning.

Multiply Fractions by Fractions

Reasoning and Problem Solving

The shaded square in the grid below is the answer to a multiplying fractions question.
What was the question?



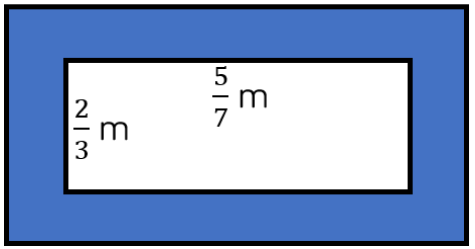
How many ways can you complete the missing digits?

$$\frac{\square}{\square} \times \frac{3}{\square} = \frac{6}{12}$$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{2}$$

Find the area of the shaded part of the shape.

Not drawn accurately



Alex says,

$\frac{1}{4} \times \frac{1}{2}$ is the same as $\frac{1}{2}$ of a quarter.

Do you agree?
Explain why.

Divide Fractions by Integers (1)

Reasoning and Problem Solving

Tommy says,

Dividing by 2 is the same as finding half of a number so $\frac{4}{11} \div 2$ is the same as $\frac{1}{2} \times \frac{4}{11}$

Do you agree?
Explain why.

Match the equivalent calculations.

$\frac{1}{4} \times \frac{12}{13}$	$\frac{12}{13} \div 2$
$\frac{1}{6} \times \frac{12}{13}$	$\frac{12}{13} \div 6$
$\frac{1}{2} \times \frac{12}{13}$	$\frac{12}{13} \div 4$
$\frac{1}{3} \times \frac{12}{13}$	$\frac{12}{13} \div 3$

Complete the missing integers.

$\frac{15}{16} \div \square = \frac{5}{16}$

$\frac{15}{16} \div \square = \frac{3}{16}$

$\frac{20}{23} \div \square = \frac{4}{23}$

$\frac{20}{23} \div \square = \frac{5}{23}$

Rosie walks for $\frac{3}{4}$ of an hour over 3 days.
She walks for the same amount of time each day.
How many minutes does Rosie walk each day?

Divide Fractions by Integers (2)

Reasoning and Problem Solving

Alex says,

I can only divide a fraction by an integer if the numerator is a multiple of the divisor.

Do you agree?
Explain why.

Calculate the missing fractions and integers.

$$\square \div 4 = \frac{7}{36}$$

$$\frac{3}{20} \div \square = \frac{3}{80}$$

$$\square \div \square = \frac{2}{5}$$

Is there more than one possibility?

Four Rules with Fractions

Reasoning and Problem Solving

Add two sets of brackets to make the following calculation correct:

$$\frac{1}{2} + \frac{1}{4} \times 8 + \frac{1}{6} \div 3 = 6\frac{1}{18}$$

Explain where the brackets go and why.
Did you find any difficulties?

Match each calculation to the correct answer.

$(\frac{2}{3} + \frac{2}{9}) \div 4$	$\frac{5}{9}$
$\frac{2}{3} - \frac{1}{3} \div 3$	$\frac{2}{9}$
$\frac{1}{3} \times 2 - (1\frac{1}{9} \div 2)$	$\frac{1}{9}$