

Decimals


Key Words

equivalent fractions

thousandths

equivalent decimals



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- What is the total cost of 1 pack of zucchini seeds and 1 pack of pumpkin seeds?
 - Samantha paid for these seeds with a \$5 bill. About how much change would she get?
 - About how much will 10 packs of flower seeds and 1 pack of zucchini seeds cost? How could you find the exact amount?

1

Equivalent Fractions



$\frac{6}{12}$ of the stickers are left.

$\frac{1}{2}$ of the stickers are left.

Who is correct?

Explore



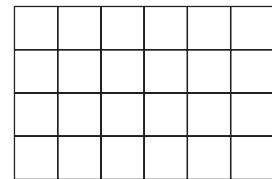
You will need red and yellow Colour Tiles or congruent squares, and 2-cm grid paper.

➤ Outline this rectangle on 2-cm grid paper.

Place the tiles on the rectangle so that:

- $\frac{1}{6}$ of the rectangle is red.
- The rest of the rectangle is yellow.

Record your work on the rectangle.



➤ How many ways can you describe the fraction of the rectangle that is red? Yellow?

Record each way.

➤ Find a way to write a fraction that names the same amount as each fraction below.

Write to explain what you did.

$\frac{1}{3}$ $\frac{8}{10}$ $\frac{5}{8}$ $\frac{6}{12}$

Show and Share

Share your work with another pair of students.

Compare the fractions you wrote for each colour.

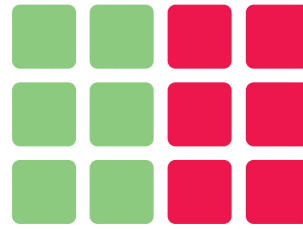
How did you know which fractions to write?

Describe any patterns you see in the fractions for each colour.

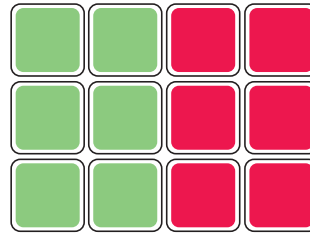
Connect

This rectangle was made with Colour Tiles.

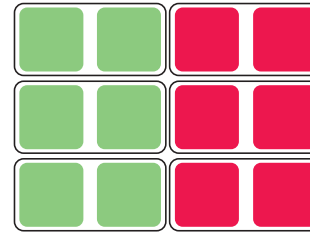
What fraction of the rectangle is green?
How many different fractions can you write to describe the green part?



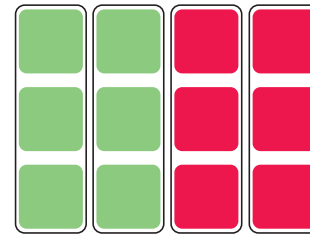
- There are 12 tiles.
6 tiles are green.
 $\frac{6}{12}$ of the rectangle is green.



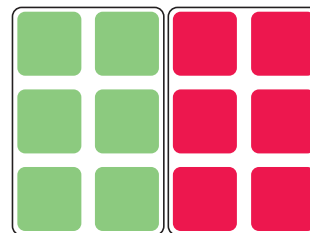
- There are 6 groups of 2 tiles.
3 groups are green.
 $\frac{3}{6}$ of the rectangle is green.



- There are 4 groups of 3 tiles.
2 groups are green.
 $\frac{2}{4}$ of the rectangle is green.



- There are 2 groups of 6 tiles.
1 group is green.
 $\frac{1}{2}$ of the rectangle is green.



$\frac{1}{2}$, $\frac{2}{4}$, $\frac{3}{6}$, and $\frac{6}{12}$ name the same amount.

They are **equivalent fractions**.

- There are patterns in the equivalent fractions.

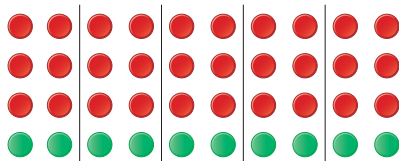
$$\frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{6}{12}$$

The numerators are multiples of the least numerator, 1.

The denominators are multiples of the least denominator, 2.

► We can use a set model to find equivalent fractions.

Look at the fraction of each set that is red.



$$\frac{6}{8} \xrightarrow{\times 5} \frac{30}{40}$$



$$\frac{6}{8} \xrightarrow{\div 2} \frac{3}{4}$$

When you multiply or divide the numerator and the denominator of a fraction by the same number, you do not change the value of the fraction.

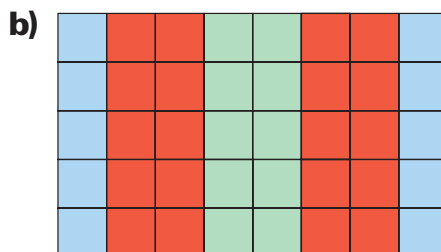
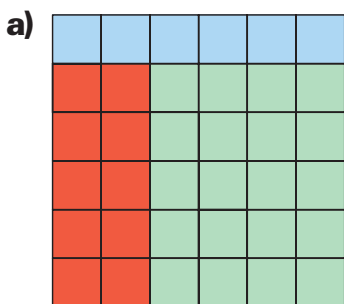
So, $\frac{3}{4}$, $\frac{6}{8}$, and $\frac{30}{40}$ are equivalent fractions.

The number you multiply or divide by cannot be 0.

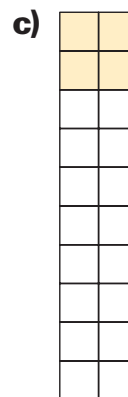
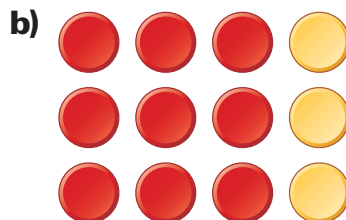
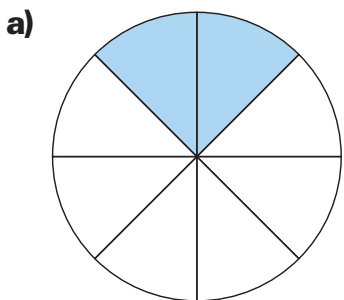
Practice

Use Colour Tiles or grid paper when they help.

1. What fraction of each rectangle is blue? Red? Green?
For each colour, write as many different fractions as you can.

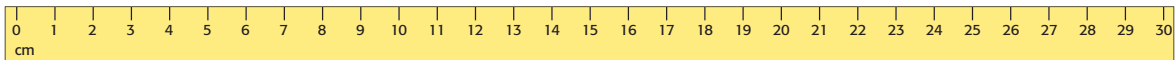


2. Find as many equivalent fractions as you can for each picture.
What patterns do you see?

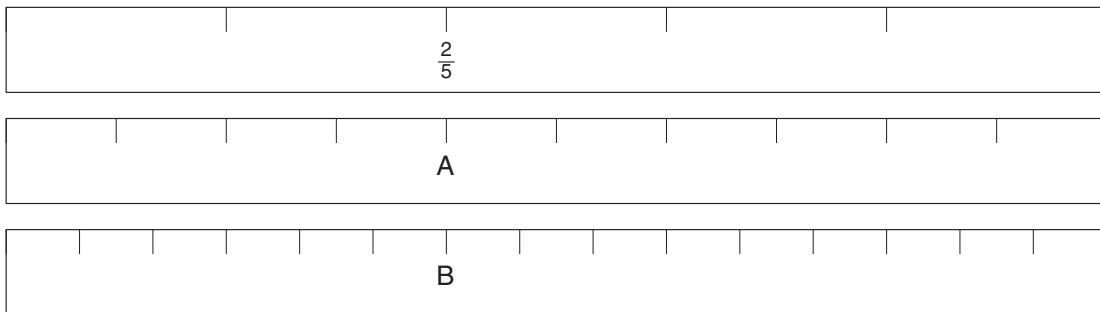


3. Use the patterns you found in question 2.
Write a rule you can use to find equivalent fractions.
How can you show your rule is correct?

4. Use a 30-cm ruler.
How many equivalent fractions can you find for $\frac{20}{30}$?
Explain how you found the fractions.



5. Use the strips below. Write 2 fractions that are equivalent to $\frac{2}{5}$.
Explain how you did it.



6. Draw a picture to show each pair of equivalent fractions.

a) $\frac{1}{4}, \frac{3}{12}$ b) $\frac{2}{3}, \frac{8}{12}$ c) $\frac{3}{5}, \frac{12}{20}$ d) $\frac{18}{24}, \frac{3}{4}$

7. Use tiles or counters to write 3 equivalent fractions for each fraction.

a) $\frac{1}{2}$ b) $\frac{5}{6}$ c) $\frac{20}{50}$ d) $\frac{4}{5}$ e) $\frac{20}{30}$ f) $\frac{25}{35}$

8. Use counters or draw a picture to find pairs of fractions that are equivalent.

a) $\frac{1}{6}$ and $\frac{6}{36}$ b) $\frac{12}{15}$ and $\frac{3}{5}$ c) $\frac{6}{16}$ and $\frac{3}{4}$ d) $\frac{8}{14}$ and $\frac{4}{7}$



9. Roxanne cut a pizza into 8 equal slices. She ate 2 slices.

a) Write 2 equivalent fractions to describe how much pizza Roxanne ate.

b) Write 2 equivalent fractions to describe how much pizza was left.

Show your work.

10. For each fraction, identify the equivalent fractions.

Explain how you know the fractions are equivalent.

a) $\frac{3}{4}, \frac{8}{12}, \frac{6}{8}, \frac{6}{9}, \frac{9}{12}$ b) $\frac{4}{10}, \frac{6}{15}, \frac{10}{25}, \frac{2}{5}, \frac{8}{15}$

Reflect

Use numbers, pictures, or words to explain what it means when fractions are equivalent.