

RECALL

7

Write the two missing values to make these equivalent fractions correct.

$$\frac{\boxed{}}{3} = \frac{8}{12} = \frac{4}{\boxed{}}$$

1 mark

1 mark

WORKED EXAMPLE

Simplest form

$$\begin{array}{r} \underline{260} \\ 440 \end{array}$$

$$\begin{array}{r} \underline{99} \\ 120 \end{array}$$

$$\begin{array}{r} \underline{91} \\ 231 \end{array}$$

YOUR TURN

$$\begin{array}{r} \underline{240} \\ 440 \end{array}$$

$$\begin{array}{r} \underline{66} \\ 900 \end{array}$$

$$\begin{array}{r} \underline{81} \\ 123 \end{array}$$

L.O. - USE COMMON FACTORS TO SIMPLIFY FRACTIONS;
- USE COMMON MULTIPLES TO EXPRESS FRACTIONS
IN THE SAME DENOMINATION.

- **SOME WILL EVEN:** Solve problems involving simplifying and equivalent fractions.
- **SOME WILL:** Give fractions in their simplest form.
- **MOST WILL:** Find equivalent fractions.
- **ALL WILL:** Can identify common factors and multiples.

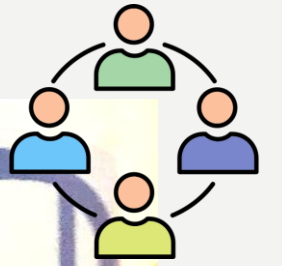


GUIDED PRACTICE - MY TURN



- a) What fraction of the people are **ADULTS**? Simplify your answer.
- b) What fraction of the rollercoaster carriages is **full**? Simplify your answer.
- c) What fraction of the people waiting are **ADULTS**? Simplify your answer.

GUIDED PRACTICE - OUR TURN



- a) What fraction of the people are **ADULTS**? Simplify your answer.
- b) What fraction of the rollercoaster carriages is **full**? Simplify your answer.
- c) What fraction of the people waiting are **ADULTS**? Simplify your answer.

GUIDED PRACTICE -YOUR TURN



a) What fraction of the people are **CHILDREN**? Simplify your answer.

b) What fraction of the rollercoaster carriages is **full**? Simplify your answer.

help

Draw bar models to help you.



How many people are still waiting? Give your answer as a simplified fraction.

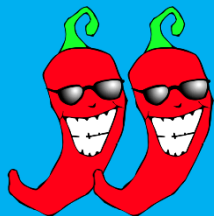
Simplify these fractions:



$$4 \frac{6}{10}$$

$$4 \frac{8}{10}$$

$$4 \frac{2}{10}$$



$$\text{a) } \frac{16}{40} = \frac{\boxed{}}{\boxed{}}$$

$$1 \frac{16}{40} = \boxed{} \frac{\boxed{}}{\boxed{}}$$

$$2 \frac{16}{40} = \boxed{} \frac{\boxed{}}{\boxed{}}$$

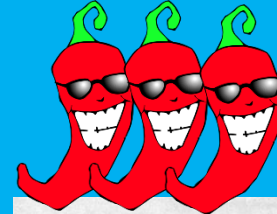
$$32 \frac{16}{40} = \boxed{} \frac{\boxed{}}{\boxed{}}$$

$$\text{b) } \frac{24}{40} = \frac{\boxed{}}{\boxed{}}$$

$$\frac{48}{80} = \frac{\boxed{}}{\boxed{}}$$

$$\frac{240}{400} = \frac{\boxed{}}{\boxed{}}$$

$$\frac{40}{24} = \frac{\boxed{}}{\boxed{}} = \boxed{} \frac{\boxed{}}{\boxed{}}$$



$$\text{a) } 6 \frac{8}{12} =$$

$$\text{b) } \frac{30}{72} =$$

$$\text{c) } 15 \frac{24}{48} =$$

$$\text{d) } \frac{84}{132} =$$

$$\text{e) } \frac{40}{16} =$$

$$\text{f) } \frac{90}{72} =$$



$$\frac{36}{6}$$

$$\frac{72}{36}$$

$$\frac{144}{36}$$

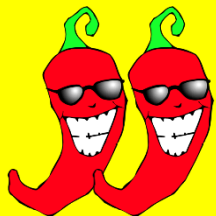
Simplify these fractions:



$$4 \frac{6}{10} = 4 \frac{3}{5}$$

$$4 \frac{8}{10} = 4 \frac{4}{5}$$

$$4 \frac{2}{10} = 4 \frac{1}{5}$$



$$a) \frac{16}{40} = \frac{2}{5}$$

$$1 \frac{16}{40} = 1 \frac{2}{5}$$

$$2 \frac{16}{40} = 2 \frac{2}{5}$$

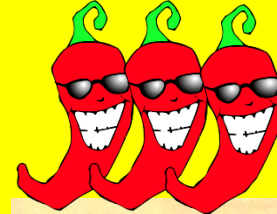
$$32 \frac{16}{40} = 32 \frac{2}{5}$$

$$b) \frac{24}{40} = \frac{3}{5}$$

$$\frac{48}{80} = \frac{3}{5}$$

$$\frac{240}{400} = \frac{3}{5}$$

$$\frac{40}{24} = \frac{5}{3} = 1 \frac{2}{3}$$



$$a) 6 \frac{8}{12} = 6 \frac{2}{3}$$

$$b) \frac{30}{72} = \frac{5}{12}$$

$$c) 15 \frac{24}{48} = 15 \frac{1}{2}$$

$$d) \frac{84}{132} = \frac{7}{11}$$

$$e) \frac{40}{16} = 2 \frac{1}{2}$$

$$f) \frac{90}{72} = 1 \frac{1}{4}$$

6

3

4

DIVE DEEPER 1

1 Which fractions are in the simplest form?

$$\frac{6}{7} \quad \frac{6}{8} \quad \frac{6}{12}$$

$$\frac{8}{10} \quad \frac{8}{11} \quad \frac{8}{12}$$

$$\frac{5}{12} \quad \frac{7}{12} \quad \frac{10}{12}$$

2 Some children are trying to fully simplify $16\frac{8}{24}$.

They all use a different method. Which children have used correct methods? Explain how you know.

The highest common factor of 16, 8 and 24 is 8, so I divided all the numbers by 8.

Olivia

I kept the whole number the same and divided the numerator and denominator by the highest common factor of 8.

Lexi

I kept the whole number the same and divided the numerator and denominator by 4.

Isla

I divided all the numbers by 2, then by 2 again, then by 2 again.

Amelia

I divided the numerator and denominator by 2, then by 4, but kept the whole number the same.

Emma

3 Which is bigger:

$$\frac{288}{160} \text{ or } \frac{9}{5}?$$

Explain how you know.

I will simplify the fractions before I compare them.

I wonder what is the best way to simplify the fractions.

CHALLENGE!

Olivia wants to go on the **GHOST TRAIN** next.
Three out of the carriages are full.
In the remaining carriage, 8 out of 10 seats are taken.



How many carriages are there?
How many seats in total?



Show how many carriages/seats are full using bar model.
Give your answer as a fraction and then simplify.



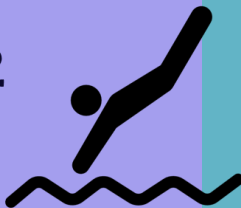
When she gets off the train, she counts 25 people waiting.
How many carriages will be full? Simplify your answer.



How would your answer change if there was 5 carriages of 8?



DIVE DEEPER 2



DIVE DEEPER 1



1 Which fractions are in the simplest form?

$$\frac{6}{7}$$

$$\frac{6}{8}$$

$$\frac{6}{12}$$

$$\frac{8}{10}$$

$$\frac{8}{11}$$

$$\frac{8}{12}$$

$$\frac{5}{12}$$

$$\frac{7}{12}$$

$$\frac{10}{12}$$

2 Some children are trying to fully simplify $16\frac{8}{24}$. They all use a different method. Which children have used correct methods? Explain how you know.

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Emma

3 Which is bigger:

$$\frac{288}{160} \text{ or } \frac{9}{5}?$$

Both equal same $1\frac{2}{5}$

Explain how you know.

I will simplify the fractions before I compare them.

I wonder what is the best way to simplify the fractions.



Olivia wants to go on the **GHOST TRAIN** next.
Three out of the carriages are full.
In the remaining carriage, 8 out of 10 seats are taken.

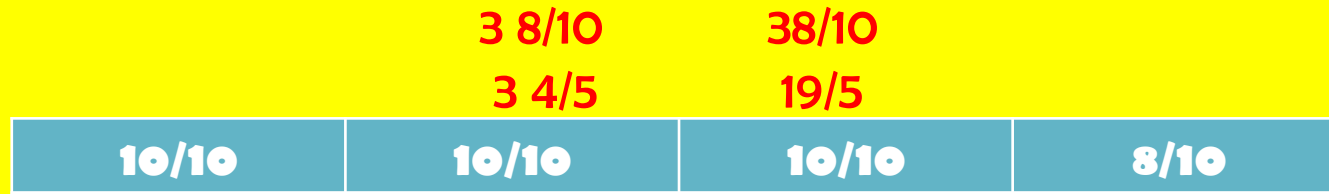


How many carriages are there?

How many seats in total?

4 carriages 40 seats

Show how many carriages/seats are full using bar model.
Give your answer as a fraction and then simplify.



When she gets off the train, she counts 25 people waiting.

How many carriages will be full? Simplify your answer.

$$2 \frac{5}{10} = 2 \frac{1}{2}$$



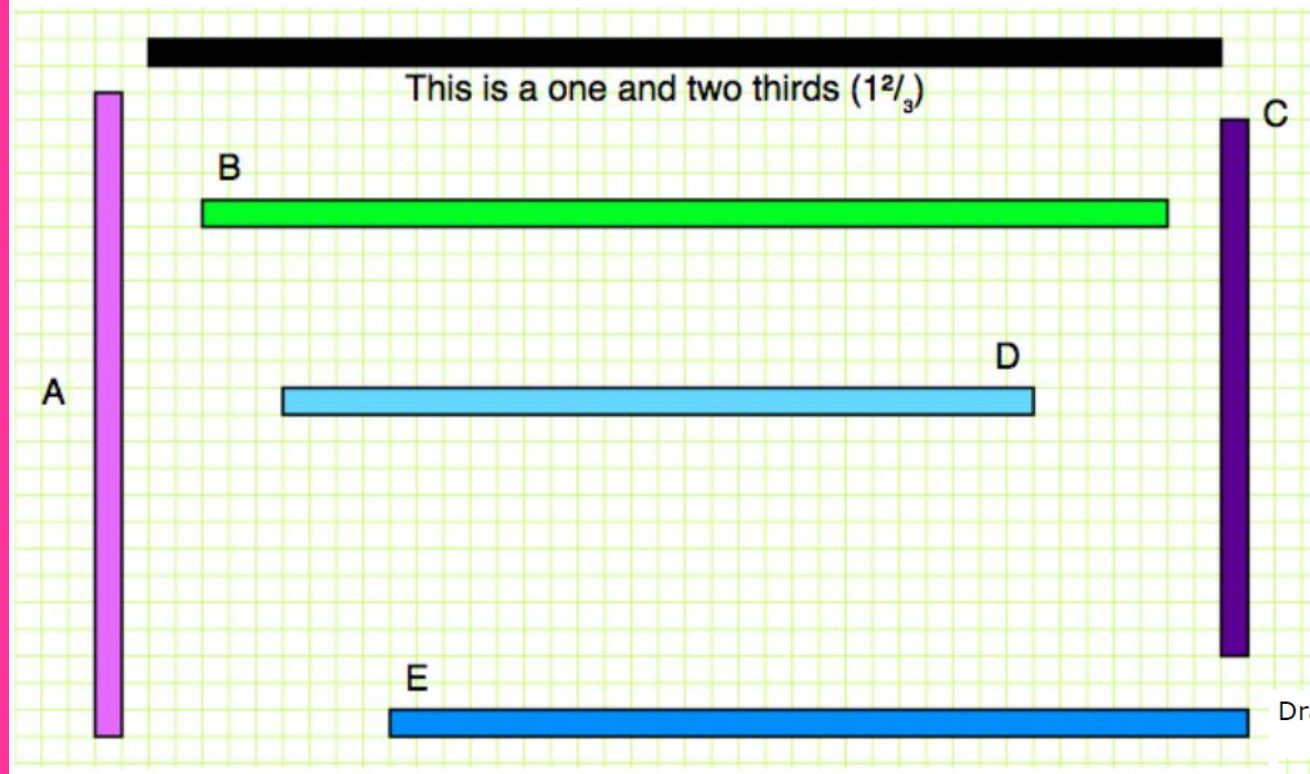
How would your answer change if there was 5 carriages of 8?



DIVE DEEPER 2

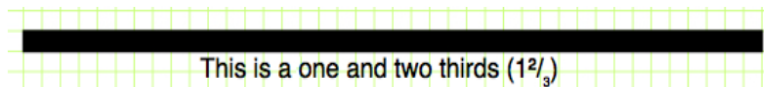


Look at these different coloured bars:



Put the bars in size order - can you do it without cutting them out?

Now focus on this bar:



This bar represents one whole and two thirds, or the number $1\frac{2}{3}$. You might find it easier to think of it as a bar which is 'one whole' that has been stuck to a bar two-thirds the size of it.

We are thinking about all the other coloured bars as fractions of this bar, so we are thinking about them as fractions of $1\frac{2}{3}$.

Drawing lines helps us measure it against the black bar:



What fraction of the black bar is Bar A?

Go through each of the other coloured bars and compare them to the black bar. What fraction of $1\frac{2}{3}$ is each bar?

Write down your ideas for each bar. For example, you could write:

Bar A is three fifths of the black bar.

or

Bar A represents $\frac{3}{5}$ of $1\frac{2}{3}$.

or

Bar A represents a whole.

