

Fractions

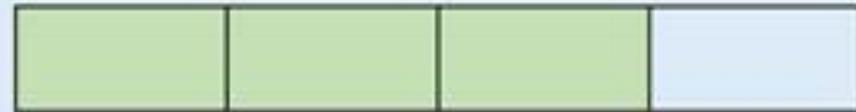
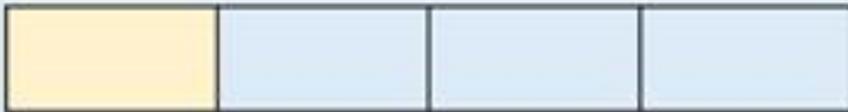
Lesson 2

Tuesday 23rd June 2020

L.0 - I am learning to answer reasoning and problem solving fraction questions.

Starter:

Complete the fractions.



$$\frac{1}{5} \square \frac{1}{4}$$

$$\frac{1}{5} \square \frac{3}{5}$$

$$\frac{1}{4} \square \frac{3}{4}$$

$$\frac{3}{5} \square \frac{3}{4}$$

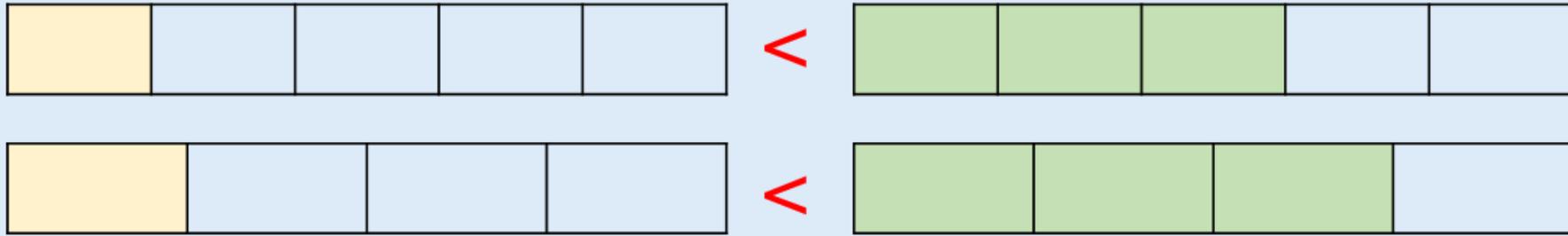
When the denominators are the same, the _____ the numerator, the _____ the fraction.

When the numerators are the same, the _____ the denominator, the _____ the fraction.



Answers:

Complete the fractions.



$$\frac{1}{5} < \frac{1}{4} \quad \frac{1}{5} < \frac{3}{5} \quad \frac{1}{4} < \frac{3}{4} \quad \frac{3}{5} < \frac{3}{4}$$

When the denominators are the same, the larger the numerator, the larger the fraction.

When the numerators are the same, the larger the denominator, the smaller the fraction.

Reasoning Questions

A.P.E.

Answer it

What is the answer to the question you've been asked?

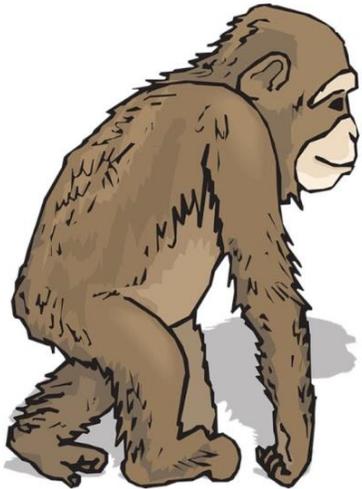
Prove it

Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it

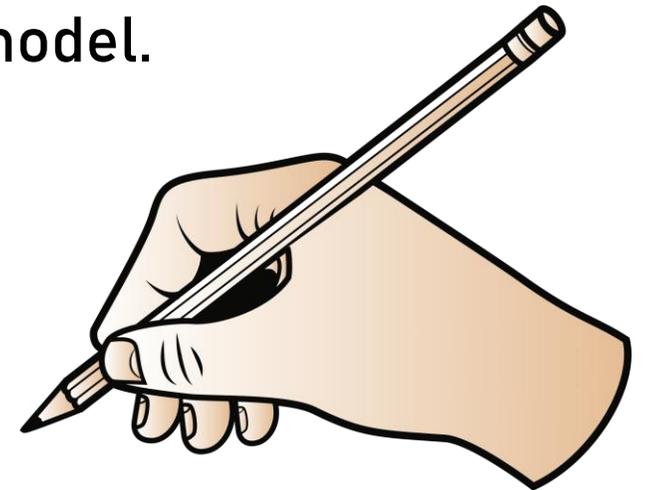
Write some sentences which make it clear why you came to your answer.

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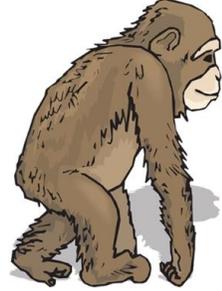
This could also explain the mistakes that have been made.

Remember some answers require a written answer. When you see the words 'explain' or 'prove it,' use the A.P.E model.



Read this question. How would you answer it?

A.P.E. **Answer it**
What is the answer to the question you've been asked?



Prove it
Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it
Write some sentences which make it clear why you came to your answer.

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Jack is simplifying $3 \frac{4}{10}$

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

Explain Jack's mistake.

Which of these answers do you prefer? Why?

Jack is simplifying $3 \frac{4}{10}$

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

Explain Jack's mistake.

A.P.E. **Answer it**
What is the answer to the question you've been asked?

Prove it
Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it
Write some sentences which make it clear why you came to your answer.



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Jack is incorrect because he only simplified the denominator and not the numerator. He correctly identified that the common multiple of 4 (the numerator) and 10 (the denominator) is 2 but forgot to divide the numerator by 2. His answer should have been $3 \frac{2}{5}$.

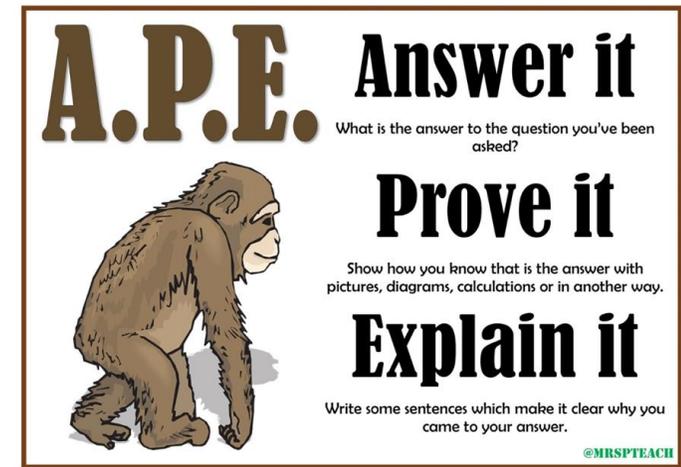
Jack is incorrect. His answer should have been $3 \frac{2}{5}$ not $3 \frac{4}{5}$.

Answer:

Jack is simplifying $3 \frac{4}{10}$

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

Explain Jack's mistake.



A.P.E. Answer it
What is the answer to the question you've been asked?

Prove it
Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it
Write some sentences which make it clear why you came to your answer.

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This answer use APE: Answer Prove Explain

Jack is incorrect because he only simplified the denominator and not the numerator. He correctly identified that the common multiple of 4 (the numerator) and 10 (the denominator) is 2 but forgot to divide the numerator by 2. His answer should have been $3 \frac{2}{5}$.

This answer doesn't use APE: Answer Prove Explain. Although this answer tells you what the answer should be, it doesn't explain why the correct answer is correct and what mistake Jack made.

Jack is incorrect. His answer should have been $3 \frac{2}{5}$ not $3 \frac{4}{5}$.

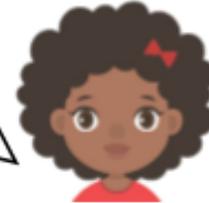
Read this question. How would you answer it?

4a. Summer is working on a number line.

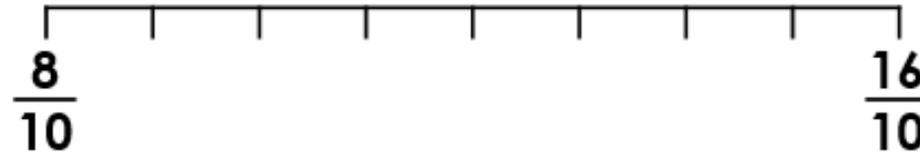
She says,

All of these fractions can be placed on the number line below.

$$\frac{7}{5} \quad \frac{18}{20} \quad 1\frac{1}{2}$$



Is she correct? Prove it.



A.P.E. **Answer it**
What is the answer to the question you've been asked?



Prove it

Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it

Write some sentences which make it clear why you came to your answer.

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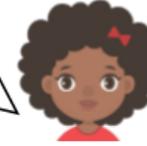
How would you improve this answer?

4a. Summer is working on a number line.

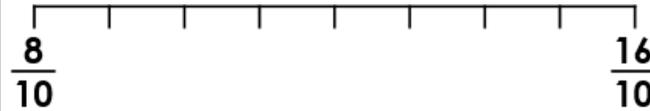
She says,

All of these fractions can be placed on the number line below.

$$\frac{7}{5} \quad \frac{18}{20} \quad 1\frac{1}{2}$$



Is she correct? Prove it.



A.P.E. Answer it

What is the answer to the question you've been asked?

Prove it

Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it

Write some sentences which make it clear why you came to your answer.



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Summer is correct.

$$\frac{18}{20} = \frac{9}{10}; \quad \frac{7}{5} = \frac{14}{10}; \quad 1\frac{1}{2} = \frac{15}{10}$$

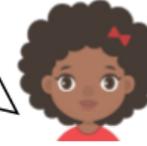
Did you come up with any of these or some of your own ideas?

4a. Summer is working on a number line.

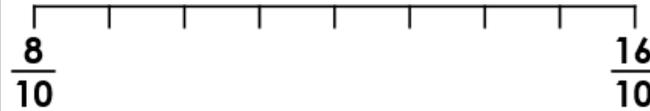
She says,

All of these fractions can be placed on the number line below.

$$\frac{7}{5} \quad \frac{18}{20} \quad 1\frac{1}{2}$$



Is she correct? Prove it.



A.P.E. Answer it
What is the answer to the question you've been asked?

Prove it
Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it
Write some sentences which make it clear why you came to your answer.



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Summer is correct.

$$\frac{18}{20} = \frac{9}{10}; \quad \frac{7}{5} = \frac{14}{10}; \quad 1\frac{1}{2} = \frac{15}{10}$$

- They could explain why they changed the denominator into tenths.
- They could prove that the fractions go on the given number line by placing them on the number line.

Can you now write a better answer?

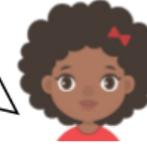
How did your answer compare?

4a. Summer is working on a number line.

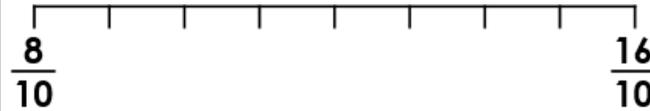
She says,

All of these fractions can be placed on the number line below.

$$\frac{7}{5} \quad \frac{18}{20} \quad 1\frac{1}{2}$$



Is she correct? Prove it.



Summer is correct. All of her fractions can be placed on the number line. Summer can change all the fractions into tenths:

$$\frac{18}{20} = \frac{9}{10}; \frac{7}{5} = \frac{14}{10}; 1\frac{1}{2} = \frac{15}{10}$$

These equivalent fractions are all between $\frac{8}{10}$ and $\frac{16}{10}$ and therefore can be placed on a number line:



A.P.E. Answer it
What is the answer to the question you've been asked?

Prove it
Show how you know that is the answer with pictures, diagrams, calculations or in another way.

Explain it
Write some sentences which make it clear why you came to your answer.



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Problem Solving Questions

Some problem solving questions will ask you to use the clues given to work out the answers.

Try this one:

4b. Use the clues to work out the mystery fraction written in its simplest form.

Clue 1: It is greater than $\frac{1}{2}$.

Clue 2: It is smaller than $\frac{7}{8}$.

Clue 3: The denominator is an even number between 3 and 6.

Write down the possible fraction/s.



PS

Read through all of the clues first to see if there are any easier clues to work out first which will narrow down your options.

There could be more than one answer.

Answer:

The answer is $\frac{3}{4}$

4b. Use the clues to work out the mystery fraction written in its simplest form.

Clue 1: It is greater than $\frac{1}{2}$.

Clue 2: It is smaller than $\frac{7}{8}$.

Clue 3: The denominator is an even number between 3 and 6.

Write down the possible fraction/s.



PS

As clue 3 tells us that the denominator must be 4, we know that $\frac{2}{4}$ is equivalent to $\frac{1}{2}$ so it must be $\frac{3}{4}$ or above.

As clue 3 tells us that the denominator must be 4, we can half the denominator to 4 and although we can't half the 7 as it would give us a decimal of 3.5, we know that the fraction must be $\frac{3}{4}$ or below.

The denominator must be 4.

TASK

As this is Year 6 revision, to ensure you are prepared for Year 7, try your best to complete all of the questions!

Home Learning

Once you have finished turn this assignment in on Google Classroom.



Week 8_Maths_Lesson 2

Lesson 2

Tuesday 23rd June 2020

L.O - I am learning to answer reasoning and problem solving fractions questions.

Try your best to answer as many questions as you can. 😊

Reasoning Questions

Key vocabulary: fraction, equivalent, numerator, denominator,

Your answer

2 Sarah has a packet of balloons.

[2010]

The contents of the packet are

5 red balloons

5 blue balloons

10 yellow balloons



Sarah says,

'One-quarter of the balloons are red'.

Is Sarah correct?
Circle **Yes** or **No**.

Yes / No

Explain how you know.

School Work

Once you have finished this assignment you will go through the answers as a class.

Self Mark