



Lesson 2

Tuesday 23rd June 2020

L.0 - 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, compare, order, simplify, simplified.	Your answer
<p>2 Sarah has a packet of balloons. [2010]</p> <p>The contents of the packet are</p> <ul style="list-style-type: none"> 5 red balloons 5 blue balloons 10 yellow balloons <p>Sarah says,</p> <p>'One-quarter of the balloons are red'.</p> <p>Is Sarah correct? Circle Yes or No.</p> <p>Yes / No</p> <p>Explain how you know.</p> 	<p>Yes</p> <p>The total number of balloons is 20 so the fraction of red ones is $\frac{5}{20}$ which is equivalent to $\frac{1}{4}$.</p>
<p>13 [2011]</p>  <p>Holly says,</p> <p>'One-third of this shape is shaded'.</p> <p>Is Holly correct? Circle Yes or No.</p> <p>Yes / No</p> <p>Explain how you know.</p>	<p>Yes.</p> <p>The two triangles make one whole square.</p> <p>Since there are 3 squares in total $\frac{1}{3}$ is shaded.</p>

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Mo, Eva and Ron are trying to simplify $\frac{5}{20}$



Mo

I can't simplify this because one number is odd and the other is even.



Ron

I can simplify any fraction.



Eva

I can't simplify this because only one number can be halved.

Do you fully agree, partly agree or completely disagree with each person?

I disagree with Mo. Although 5 is odd, it is a multiple of 5 so $\frac{5}{20}$ is equivalent to $\frac{1}{4}$.

I disagree with Eva as she is only considering using the multiple 2. 5 is a multiple of 5 and therefore it can be simplified to $\frac{1}{4}$.

I disagree with Ron as some fractions don't have common multiples e.g. $\frac{5}{7}$.

Scott scored 20 out of 24 in a game.

Dani scored 5 out of 7

Compare their scores.

Explain who you think did best and why.

Scott = $\frac{20}{24} = \frac{5}{6}$
 $\frac{5}{6} > \frac{5}{7}$ (Dani) so Scott did better.

Tommy is simplifying $4 \frac{12}{16}$

$$4 \frac{12}{16} = 4 \frac{3}{4}$$

Explain Tommy's mistake.

Tommy has divided the whole number by 4 instead of just simplifying $\frac{12}{16}$ by dividing the numerator and denominator by 4.

Teddy is comparing $\frac{3}{8}$ and $\frac{5}{12}$

To find the lowest common multiple, I will multiply 8 and 12 together.
 $8 \times 12 = 96$
 I will use a common denominator of 96

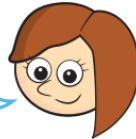


Teddy is incorrect because the LCM of 8 and 12 is 24. 96 is a common multiple so he would still compare the fractions but it is not the most efficient method.

Is Teddy correct?
 Explain why.

4 Ron and Rosie are practising penalties.
 Ron scored 7 out of 10.
 Rosie scored 23 out of 30

I scored more than you, so I should take penalties for the school team.



I did not miss as many as you, so I should take the penalties.

Compare fractions to explain who should take penalties for the school team.

$\frac{7}{10} = \frac{21}{30}$
 $\frac{23}{30} > \frac{21}{30}$ Rosie should take the penalties for the school team.

Problem Solving

6 Annie, Tommy and Kim are making flags for the school fair.
 Annie has completed $3\frac{3}{4}$ flags, Tommy has completed $3\frac{2}{3}$ flags
 and Kim has completed $\frac{18}{5}$ flags.

Who has completed the most flags?

6 Annie, Tommy and Kim are making flags for the school fair.
 Annie has completed $3\frac{3}{4}$ flags, Tommy has completed $3\frac{2}{3}$ flags
 and Kim has completed $\frac{18}{5}$ flags.

Who has completed the most flags?

$$\frac{18}{5} = 3\frac{3}{5} \quad \frac{3}{4} > \frac{2}{3} > \frac{3}{5}$$

Annie has completed the most flags

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Alex has 288 m of fence to paint.
 She paints $\frac{3}{12}$ of the whole fence on Monday. She then paints $\frac{1}{2}$ of what is left on Tuesday.
 How much fence does she have left to paint?

108m

Use the digit cards to complete the statements.



$$\frac{\square}{4} > \frac{\square}{6} \quad \frac{\square}{4} < \frac{\square}{6}$$

Find three examples of ways you could complete the statement.

$$\frac{\square}{\square} < \frac{\square}{\square}$$

Can one of your ways include an improper fraction?

$$\frac{5}{4} > \frac{3}{6}$$

$$\frac{3}{4} < \frac{6}{5} \text{ or } \frac{5}{4} < \frac{6}{3}$$

$$\frac{3}{5} < \frac{6}{4}$$

$$\frac{3}{4} < \frac{6}{5}$$

$$\frac{4}{5} < \frac{6}{3}$$

More answers available.

Week 8_Maths_Lesson 2

Two different pieces of wood have had a fraction chopped off.

Here are the pieces now, with the fraction that is left.



Which piece of wood was the longest to begin with?

Explain your answer.

Can you explain your method?

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The second piece was longer because $\frac{1}{4}$ is greater than $\frac{1}{6}$.

