

Reasoning and Problem Solving

Step 3: Compare and Order Denominators

National Curriculum Objectives:

Mathematics Year 6: (6F2) [Use common factors to simplify fractions; use common multiples to express fractions in the same denomination](#)

Mathematics Year 6: (6F3) [Compare and order fractions, including fractions > 1](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Find possible answers within parameters, where denominators are direct multiples of the same number.

Expected Find possible answers within parameters, where denominators are not always direct multiples of the same number.

Greater Depth Find possible answers within parameters, where denominators are not direct multiples of the same number. Simplifying fractions will be required.

Questions 2, 5 and 8 (Reasoning)

Developing Compare three fractions where denominators are direct multiples of the same number.

Expected Compare three fractions where denominators are not always direct multiples of the same number.

Greater Depth Compare three fractions where denominators are not direct multiples of the same number.

Questions 3, 6 and 9 (Reasoning)

Developing Solve a word problem by comparing three fractions, where denominators are direct multiples of the same number.

Expected Solve a word problem by comparing three fractions, where denominators are not always direct multiples of the same number.

Greater Depth Solve a word problem by comparing three fractions, where denominators are not direct multiples of the same number.

More [Year 6 Fractions](#) resources.

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Compare and Order Denominators

1a. Use the clues to work out the mystery fraction.

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

Clue 2: It is smaller than $\frac{3}{4}$.

Clue 3: The denominator is 8.

Write down the possible fraction/s.



PS

Compare and Order Denominators

1b. Use the clues to work out the mystery fraction.

Clue 1: It is greater than $\frac{1}{4}$.

Clue 2: It is smaller than $\frac{3}{4}$.

Clue 3: The denominator is an even number less than 8.

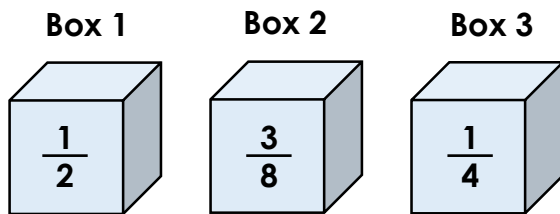
Write down the possible fraction/s.



PS

2a. Ben is participating in a game show. He needs to order three boxes in ascending order.

He has ordered the boxes like this:



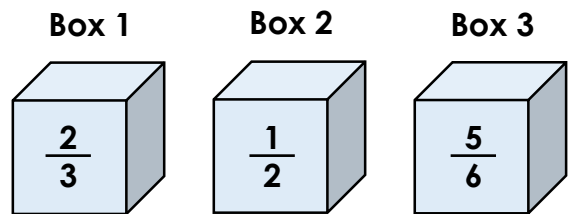
Is he correct? Explain how you know.



R

2b. Johnny is participating in a game show. He needs to order three boxes in ascending order.

He has ordered the boxes like this:



Is he correct? Explain how you know.



R

3a. Hannah, Chuan and Alice are shopping for ribbon. They buy the following amounts:

Hannah buys $\frac{8}{12}$ of a roll.

Chuan buys $\frac{3}{6}$ of a roll.

Alice buys $\frac{3}{4}$ of a roll.

Who bought the most ribbon? Convince me.



R

3b. Ken, Dominic and Gabriel are shopping for string. They buy the following amounts:

Ken buys $\frac{2}{3}$ of a ball.

Dominic buys $\frac{1}{6}$ of a ball.

Gabriel buys $\frac{1}{2}$ of a ball.

Who bought the most string? Convince me.



R

Compare and Order Denominators

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

Clue 1: It is greater than $\frac{1}{10}$.

Clue 2: It is smaller than $\frac{3}{4}$.

Clue 3: The denominator is an odd number between 3 and 7.

Write down the possible fraction/s.



PS

Compare and Order Denominators

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.

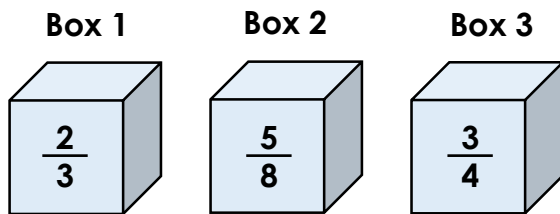
Write down the possible fraction/s.



PS

5a. Tom is participating in a game show. He needs to order three boxes in ascending order.

He has ordered the boxes like this:



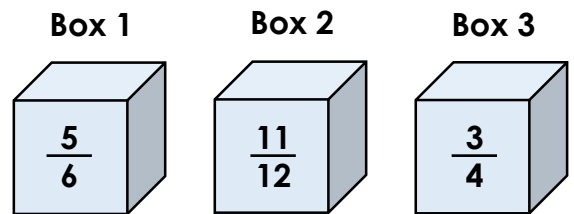
Is he correct? Explain how you know.



R

5b. Tiffany is participating in a game show. She needs to order three boxes in descending order.

She has ordered the boxes like this:



Is she correct? Explain how you know.



R

6a. Isabel, Mikey and Lucy are shopping for cotton. They buy the following amounts:

Isabel buys $\frac{1}{2}$ of a spool.

Mikey buys $\frac{3}{5}$ of a spool.

Lucy buys $\frac{3}{4}$ of a spool.

Who bought the most cotton? Convince me.



R

6b. Grace, Uma and Cian are shopping for carpet. They buy the following amounts:

Alice buys $\frac{2}{3}$ of a roll.

Uma buys $\frac{10}{12}$ of a roll.

Cian buys $\frac{1}{2}$ of a roll.

Who bought the most carpet? Convince me.



R

Compare and Order Denominators

7a. Use the clues to work out the mystery fraction written in its simplest form.

Clue 1: It is greater than $\frac{5}{8}$.

Clue 2: It is smaller than $\frac{9}{10}$.

Clue 3: The denominator is a number between 3 and 6.

Write down the possible fraction/s.



PS

Compare and Order Denominators

7b. 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 $\frac{6}{7}$.

Clue 3: The denominator is a prime number less than 10.

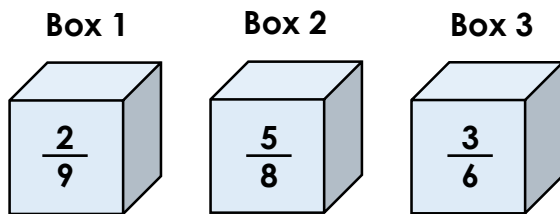
Write down the possible fraction/s.



PS

8a. Alice is participating in a game show. She needs to order three boxes in descending order.

She has ordered the boxes like this:



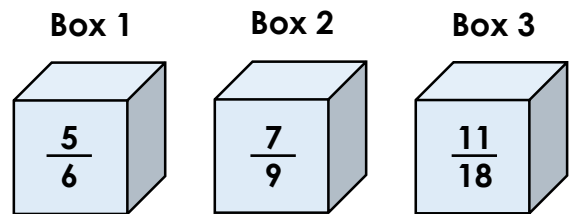
Is she correct? Explain how you know.



R

8b. Kelly is participating in a game show. She needs to order three boxes in ascending order.

She has ordered the boxes like this:



Is she correct? Explain how you know.



R

9a. Josh, Jake and Alison are shopping for material. They buy the following amounts:

Josh buys $\frac{5}{9}$ of a roll.

Jake buys $\frac{7}{11}$ of a roll.

Alison buys $\frac{2}{3}$ of a roll.

Who bought the most material? Convince me.



R

9b. Robert, Vicky and Harriet are shopping for wool. They buy the following amounts:

Robert buys $\frac{1}{3}$ of a ball.

Vicky buys $\frac{7}{9}$ of a ball.

Harriet buys $\frac{6}{15}$ of a ball.

Who bought the most wool? Convince me.



R

Reasoning and Problem Solving Compare and Order Denominators

Developing

1a. $\frac{5}{8}$

2a. Ben is incorrect because the fractions shown are in descending order. This can be shown by finding the lowest common denominator of the three fractions: 8.

3a. Alice bought the most ribbon as $\frac{3}{4}$ is the largest fraction. This can be shown by finding the lowest common denominator of the three fractions: 12.

Expected

4a. $\frac{2}{5}, \frac{3}{5}$

5a. Tom is incorrect because the fractions are in a random order. This can be shown by finding the lowest common denominator of the three fractions: 24.

6a. Lucy bought the most cotton as $\frac{3}{4}$ is the largest fraction. This can be shown by finding the lowest common denominator of the three fractions: 20.

Greater Depth

7a. $\frac{3}{4}, \frac{4}{5}$

8a. Alice is incorrect because the fractions are in a random order. This can be shown by finding the lowest common denominator of the three fractions: 72.

9a. Alison bought the most material as $\frac{2}{3}$ is the largest fraction. This can be shown by finding the lowest common denominator of the three fractions: 99.

Reasoning and Problem Solving Compare and Order Denominators

Developing

1b. $\frac{1}{2}, \frac{2}{4}, \frac{3}{6}$

2b. Johnny is incorrect because the fractions are in a random order. This can be shown by finding the lowest common denominator of the three fractions: 6.

3b. Ken bought the most ribbon as $\frac{2}{3}$ is the largest fraction. This can be shown by finding the lowest common denominator of the three fractions: 6.

Expected

4b. $\frac{3}{4}$

5b. Tiffany is incorrect because the fractions are in a random order. This can be shown by finding the lowest common denominator of the three fractions: 12.

6b. Uma bought the most carpet as $\frac{10}{12}$ is the largest fraction. This can be shown by finding the lowest common denominator of the three fractions: 12.

Greater Depth

7b. $\frac{4}{7}, \frac{5}{7}$

8b. Kelly is incorrect because the fractions are in descending order. This can be shown by finding the lowest common denominator of the three fractions: 18.

9b. Vicky bought the most wool as $\frac{7}{9}$ is the largest fraction. This can be shown by finding the lowest common denominator of the three fractions: 45.