Discussion Problems
Step 3: Order FDP

National Curriculum Objectives:

Mathematics Year 6: (6F6) Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]
Mathematics Year 6: (6F11) Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

About this resource:

This resource has been designed for pupils who understand the concepts within this step. It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More Year 6 Percentages resources.

Did you like this resource? Don't forget to review it on our website.

Order FDP

1.

Jay is combining fractions, decimals and percentages in order to make an amount that is equivalent to 100%.

He says,

> I've managed to reach my target by combining more than 1 value from each column. I have organised the values in my calculation in ascending order.

Column A	Column B
2%	$\frac{2}{25}$
$\frac{1}{5}$	$\frac{6}{30}$
$\frac{1}{8}$	30%
8%	$\frac{2}{10}$
0.175	12.5%

Explore the possible combinations of values Jay could have chosen. What could his calculation look like?

DP

2.

Ellie is playing an ordering game with cards based on fractions, decimals and percentages.

5 cards with values and 5 blank cards are placed down on the table. She needs to complete these cards with either a fraction, decimal or percentage that could fit, so that the cards are in ascending order.

She must use at least 1 fraction, 1 decimal with 3 decimal places and 1 percentage with 1 decimal place.

Card A	Card B	Card C	Card D	Card E	Card F	Card G	Card H	Card I	Card J
2%		0.2		$\frac{3}{8}$		45%		0.875	

Investigate what the values of the blank cards could be.

DP

Order FDP

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1. Jay is combining fractions, decimals and percentages in order to make an amount that is equivalent to 100%.

He says,

> I've managed to reach my target by combining more than 1 value from each column. I have organised the values in my calculation in ascending order.

Column A	Column B
2%	$\frac{2}{25}$
$\frac{1}{5}$	$\frac{6}{30}$
$\frac{1}{8}$	30%
8%	$\frac{2}{10}$
0.175	12.5%

Explore the possible combinations of values Jay could have chosen. What could his calculation look like?

Various answers, for example: Column A: 2%, $\frac{1}{5}$; Column B: $\frac{2}{25}$, $\frac{6}{30}$, 30%, $\frac{2}{10}$

Jay's calculation could look like this: 2% + $\frac{2}{25}$ + $\frac{2}{10}$ + $\frac{1}{5}$ + $\frac{6}{30}$ + 30% = 100%

DP

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2. Ellie is playing an ordering game with cards based on fractions, decimals and percentages.

5 cards with values and 5 blank cards are placed down on the table. She needs to complete these cards with either a fraction, decimal or percentage that could fit, so that the cards are in ascending order.

She must use at least 1 fraction, 1 decimal with 3 decimal places and 1 percentage with 1 decimal place.

Card A	Card B	Card C	Card D	Card E	Card F	Card G	Card H	Card I	Card J
2%		0.2		$\frac{3}{8}$		45%		0.875	

Investigate what the values of the blank cards could be.

Various answers, for example: Card B = 5%, Card D = 0.21, Card F = 0.426, Card H = $\frac{3}{5}$, Card J = 96.5%

DP