

Week 12

This week in a nutshell:

Some students may find the wording of Q1 difficult to understand so give an example for them to model their answers from. Remind students to show each step of their working when solving equations in Q2. Encourage students to list all factors in Q3 so that they can be sure they select the highest common factor and not just a common factor. Q4 relies on the various skills that students built up in weeks 1,2,3,4 and 8. Review all the measures of average and the range for Q5. Put their definitions on display and allow students to focus on calculations at this stage. Next term there will be a focus on remembering which is which.

Question 1: Percentages and proportionality

Question 2: Equations with brackets

Question 3: Highest common factor

Question 4: Converting between fractions, decimals and percentages

Question 5: Descriptive statistics

The questions aim to develop and deepen understanding over the week. Due to the necessity of the topics covered this week, there is an emphasis on the interchangeability of command words, and language flexibility. It may be worth taking some extra time this week to make sure your students are developing their mathematical literacy.

This week's ideas for class discussion include:

Question 1: Percentages and proportionality

- Compare these two questions: 'Find 100% of amount x if 25% of x is 6.' with 'On a necklace there are 25 red beads and 6 gold beads. If I have 100 red beads and I want to make more necklaces of the same design, how many gold beads should I buy?'.

Question 2: Equations with brackets

- To solve $7(x - 8) = 21$ would you first expand the brackets or divide by 7? Solve the equation both ways and then discuss the advantages of each method.

Question 3: Highest common factor

- Teacher A has 24 kids in their class. Teacher B has 32. Both teachers will split their classes into teams for an end of term quiz. What different size quiz teams are possible so that it is fair?

Question 4: Converting between fractions, decimals and percentages

- Task: Convert $\frac{1}{9}$, $\frac{2}{9}$, $\frac{3}{9}$, $\frac{4}{9}$, $\frac{5}{9}$, $\frac{6}{9}$, $\frac{7}{9}$, and $\frac{8}{9}$ into decimals using a calculator. What do you notice? Do the same for $\frac{47}{99}$, $\frac{25}{99}$ & $\frac{163}{999}$. Can you write a rule regarding 9 as a denominator?

Question 5: Descriptive statistics

- Discuss the difference between a measure of average and a measure of spread.

Week 12: Day 1

1) Find 100% of amount H if 20% of H is 8.

2) Solve for x

$$5(2x - 3) = 25$$

3) Find the highest common factor of 34 and 24

4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{1}{2}$		
		30%
	0.09	

5) For the following set of data, find

- a) The median
- b) The mode

11, 17, 9, 14, 18, 23, 11

Week 12: Day 1 Answers

- 1) Find 100% of amount H if 20% of H is 8. 40

- 2) Solve for x

$$5(2x - 3) = 25 \quad x = 4$$

- 3 Find the highest common factor of 34 and 24 2

- 4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{3}{10}$	0.3	30%
$\frac{9}{100}$	0.09	9%

- 5) For the following set of data, find

- a) The median 14
b) The mode 11

11, 17, 9, 14, 18, 23, 11
9, 11, 11, 14, 17, 18, 23

Week 12: Day 2

1) Find 100% of amount B if 25% of B is 11.

2) Solve for x

$$2(x - 5) = 8$$

3) Find the highest common factor of 27 and 42

4) Complete the table entries.

Fraction	Decimal	Percentage
	0.15	
$\frac{3}{4}$		
		74%

5) For the following set of data, find

a) The median

b) The range

32, 34, 43, 28, 19, 19

Week 12: Day 2 Answers

- 1) Find 100% of amount B if 25% of B is 11. 44

- 2) Solve for x

$$2(x - 5) = 8 \quad x = 9$$

- 3) Find the highest common factor of 27 and 42 3

- 4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{3}{20}$	0.15	15%
$\frac{3}{4}$	0.75	75%
$\frac{37}{50}$	0.74	74%

- 5) For the following set of data, find

- a) The median 30
 b) The range 24

32, 34, 43, 28, 19, 19
 19, 19, 28, 32, 34, 43

Week 12: Day 3

1) Find 100% of amount Z if 30% of Z is 150.

2) Solve for x

$$3(2x + 5) = 36$$

3) Find the highest common factor of 64 and 72

4) Complete the table entries.

Fraction	Decimal	Percentage
	0.05	
	0.48	
$\frac{19}{20}$		

5) For the following set of data, find

a) The mean

b) The mode

14, 6, 21, 21, 18

Week 12: Day 3 Answers

- 1) Find 100% of amount Z if 30% of Z is 150. 500

- 2) Solve for x

$$3(2x + 5) = 36 \quad x = 3.5$$

- 3) Find the highest common factor of 64 and 72 8

- 4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{1}{20}$	0.05	5%
$\frac{12}{25}$	0.48	48%
$\frac{19}{20}$	0.95	95%

- 5) For the following set of data, find

- a) The mean 16
 b) The mode 21

14, 6, 21, 21, 18

Week 12: Day 4

1) Find 100% of amount W if 75% of W is 90.

2) Solve for x

$$7(2x + 3) = 28$$

3) Find the highest common factor of 22 and 35

4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{1}{50}$		
$\frac{2}{3}$		
		12%

5) For the following set of data, find

- The median
- The mode

87, 68, 91, 84, 87, 82, 93

Week 12: Day 4 Answers

1) Find 100% of amount W if 75% of W is 90. 120

2) Solve for x

$$7(2x + 3) = 28 \quad x = \frac{1}{2}$$

3) Find the highest common factor of 22 and 35 1

4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{1}{50}$	0.02	2%
$\frac{2}{3}$	0.666...	$66\frac{2}{3}\%$
$\frac{3}{25}$	0.12	12%

5) For the following set of data, find

a) The median 87

b) The mode 87

87, 68, 91, 84, 87, 82, 93

68, 82, 84, 87, 87, 91, 93

Week 12: Day 5

1) Find 100% of amount L if 28% of L is 14.

2) Solve for x

$$4(5x - 2) = 32$$

3) Find the highest common factor of 36, 48 and 54

4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{5}{8}$		
	1.25	
		8%

5) For the following set of data, find

- a) The mean
- b) The range

6, 12, 8, 3, 12, 13

Week 12: Day 5 Answers

1) Find 100% of amount L if 28% of L is 14. 50

2) Solve for x

$$4(5x - 2) = 32 \quad x = 2$$

3) Find the highest common factor of 36, 48 and 54 6

4) Complete the table entries.

Fraction	Decimal	Percentage
$\frac{5}{8}$	0.625	62.5%
$1 \frac{1}{4}$	1.25	125%
$\frac{2}{25}$	0.08	8%

5) For the following set of data, find

- a) The mean 9
- b) The range 10

6, 12, 8, 3, 12, 13

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