

## Week 2

### This week in a nutshell:

We introduce decimals and some basic algebra. The methods needed should be familiar, allowing students to access all material.

**Question 1:** Order +ve & -ve integers, decimals and use  $<$ ,  $>$ ,  $\neq$

**Question 2:** Rounding

**Question 3:** Addition & Subtraction (Decimals)

**Question 4:** Multiply & Divide (Decimals)

**Question 5:** Simplify Algebra (Simple)

The questions progress in complexity over the 5 day period. Dealing with misconceptions that arise each day will help students with the following days' tasks. Concepts such as place value and regrouping will be key. There is ample opportunity for talking about whether answers seem reasonable, and how to self check.

### This week's ideas for class discussion include:

Question 1: **Order +ve & -ve integers, decimals and use  $<$ ,  $>$ ,  $\neq$**

- How can you remember which inequality symbol is 'greater than' or 'less than'?

Question 2: **Rounding**

- How would you summarise the general rule for rounding?
- How do you determine which digits are 'significant'?
- Why do we sometimes have to include a zero after a decimal has been rounded? (eg Day 5, Q2b)

Question 3: **Addition & Subtraction (Decimal)**

- Does the number in the answer always, sometimes or never have the same number of decimal places as the numbers in the question for a) addition, b) subtraction?

Question 4: **Multiply & Divide (Decimals)**

- Does the number in the answer always, sometimes or never have the same number of decimal places as the numbers in the question for a) multiplication, b) division?

Question 5: **Simplify Algebra (Simple)**

- When simplifying expressions, what is meant by 'like terms'?
- Are there any examples where  $x$  is the same as  $x^2$  or  $x^3$ ?

## Week 2: Day 1

- 1) a) Arrange the numbers in ascending order: **17, 70, 7, 71, 77**  
  
b) Arrange the numbers in ascending order: **6.2, 2.6, 0.62, 0.26, 0.6**

- 2)
  - a) What is **37** rounded to the nearest 10?
  - b) What is **512** rounded to the nearest 100?

- 3)    a)  $0.4 + 0.6$                       b)  $3 - 0.5$

- 4)    a)  **$3 \times 1.2$**                       b)  **$2.8 \div 2$**

- 5) Simplify  $2a + a + 3a$

## Week 2: Day 1 Answers

- 1) a) Arrange the numbers in ascending order: **17, 70, 7, 71, 77**  
**= 7, 17, 70, 71, 77**
- b) Arrange the numbers in ascending order: **6.2, 2.6, 0.62, 0.26, 0.6**  
**= 0.26, 0.6, 0.62, 2.6, 6.2**

- 2) a) What is **37** rounded to the nearest 10?  
**= 40**
- b) What is **512** rounded to the nearest 100?  
**= 500**

- 3) a)  **$0.4 + 0.6$**   
 **$= 1$**
- b)  **$3 - 0.5$**   
 **$= 2.5$**

- 4) a)  **$3 \times 1.2$**   
 **$= 3.6$**
- b)  **$2.8 \div 2$**   
 **$= 1.4$**

- 5) Simplify  **$2a + a + 3a = 6a$**

## Week 2: Day 2

1) a) Arrange the numbers in ascending order: **-1, 11, 1, -6, 5**

b) Arrange the numbers in ascending order: **0.1, -0.11, 0.01, 0.11, -0.1**

2) a) What is **14.554** rounded to the nearest whole number?

b) What is **49.4949** rounded to the nearest integer?

3) a)  **$1.35 + 2.9$**

b)  **$2.8 - 0.9$**

4) a)  **$2.4 \times 1.5$**

b)  **$3 \div 0.5$**

5) Simplify  **$3g + 7h + 4h - 2g$**

## Week 1: Day 2 Answers

- 1) a) Arrange the numbers in ascending order: **-1, 11, 1, -6, 5**  
**= 6, -1, 1, 5, 11**
- b) Arrange the numbers in ascending order: **0.1, -0.11, 0.01, 0.11, -0.1**  
**= -0.11, -0.1, 0.01, 0.1, 0.11**

- 2) a) What is **14.554** rounded to the nearest whole number?  
**= 15**
- b) What is **49.4949** rounded to the nearest integer?  
**= 49**

- 3) a)  **$1.35 + 2.9$**   
 **$= 4.25$**
- b)  **$2.8 - 0.9$**   
 **$= 1.9$**

- 4) a)  **$2.4 \times 1.5$**   
 **$= 3.6$**
- b)  **$3 \div 0.5$**   
 **$= 6$**

- 5) Simplify  **$3g + 7h + 4h - 2g = g + 11h$**

## Week 2: Day 3

- 1) a) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$

$$6.12 \square 6.012$$

- b) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$

$$-0.45 \square -0.54$$

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- 2) a) What is **1.82534** rounded to 2 decimal places?

- b) What is **1.854** rounded to 1 decimal place?

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- 3) a)  **$6.88 + 2.13$**

- b)  **$0.375 - 0.125$**

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- 4) a)  **$1.1 \times 0.6$**

- b)  **$4.2 \div 0.7$**

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- 5) Simplify  **$4e + 2f - 2e - 2f$**

## Week 2: Day 3 Answers

- 1) a) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$   
 **$6.12 > 6.012$**   
b) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$   
 **$-0.45 > -0.54$**

- 2) a) What is  **$1.82534$**  rounded to 2 decimal places?  
 **$= 1.83$**   
b) What is  **$1.854$**  rounded to 1 decimal place?  
 **$= 1.9$**

- 3) a)  **$6.88 + 2.13$**   
 **$= 9.01$**   
b)  **$0.375 - 0.125$**   
 **$= 0.25$**

- 4) a)  **$1.1 \times 0.6$**   
 **$= 0.66$**   
b)  **$4.2 \div 0.7$**   
 **$= 6$**

- 5) Simplify  **$4e + 2f - 2e - 2f = 2e$**

## Week 2: Day 4

- 1) a) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$

$$11.277 \square 11.99$$

- b) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$

$$-0.205 \square -0.258$$

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- 2) a) What is **2881** rounded to 1 significant figure?

- b) What is **3.14159** rounded to 3 decimal places?

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3) a)  $3.207 + 5.81$

b)  $9.38 - 2.7$

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4) a)  $0.4 \times 0.8$

b)  $0.9 \div 0.03$

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5) Simplify  $3a + 3ab + 3b + 4a - 2ab$



## Week 2: Day 4 Answers

- 1) a) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$

$$11.277 < 11.99$$

- b) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$

$$-0.205 > -0.258$$

- 2) a) What is **2881** rounded to 1 significant figure?

$$= 3000$$

- b) What is **3.14159** rounded to 3 decimal places?

$$= 3.142$$

- 3) a)  $3.207 + 5.81$

$$= 9.017$$

- b)  $9.38 - 2.7$

$$= 6.68$$

- 4) a)  $0.4 \times 0.8$

$$= 0.32$$

- b)  $0.9 \div 0.03$

$$= 30$$

- 5) Simplify  $3a + 3ab + 3b + 4a - 2ab = 7a + ab + 3b$

## Week 2: Day 5

1) a) Arrange the numbers in descending order: **1.08, -0.81, 1.18, -0.18, -0.08**

b) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$

$$6 \times 4 \square 8 \times 3$$

2) a) What is **36743** rounded to 3 significant figures?

b) What is **0.0198** rounded to 2 significant figures?

3) a) **29.99 + 0.11**

b) **17.13 - 5.44**

4) a) **0.07 x 0.05**

b) **0.54 ÷ 0.6**

5) Simplify  **$2x^2 - 2x - 3x^2 + 7x - 2x^3$**

## Week 1: Day 5 Answers

- 1) a) Arrange the numbers in descending order: **1.08, -0.81, 1.18, -0.18, -0.08**  
**= 1.18, 1.08, -0.08, -0.18, -0.81**
- b) Complete the number sentence with the symbol  $<$ ,  $=$ , or  $>$   
 **$6 \times 4 = 8 \times 3$**

- 2) a) What is **36743** rounded to 3 significant figures?  
**= 36700**
- b) What is **0.0198** rounded to 2 significant figures?  
**= 0.020**

- 3) a)  **$29.99 + 0.11$**   
**= 30.1**
- b)  **$17.13 - 5.44$**   
**= 11.69**

- 4) a)  **$0.07 \times 0.05$**   
**= 0.0035**
- b)  **$0.54 \div 0.6$**   
**= 0.9**

- 5) Simplify  **$2x^2 - 2x - 3x^2 + 7x - 2x^3 = 5x - x^2 - 2x^3$**

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