

Week 12

This week in a nutshell:

As with last week, the topics this week involve many skills that are going to feature throughout most GCSE schemes of work. Again, having secondary tasks or discussions to generate ideas of how these skills could be used in maths and other subjects can get students thinking about intra- and inter-disciplinary skills to help make those mental connections permanent.

Question 1: Rounding (significant figures)

Question 2: Using coordinates

Question 3: Product of binomials

Question 4: Ordering numbers in standard form

Question 5: Probability

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: Rounding (significant figures)

- What's the rule for finding the first significant figure?

Question 2: Using coordinates

- We can find the horizontal/vertical distance between points, how could we find the direct distance?

Question 3: Product of binomials

- *reflect on previous learning*

Question 4: Ordering numbers in standard form

- What aspects of numbers in standard form must be considered when placing them in order?

Question 5: Probability

- Does a probability guarantee how we think a situation will resolve?
- How many times does an event have to occur for us to believe the probability we have calculated is true?

Week 12: Day 1

- 1) What is 54788 rounded to two significant figures?
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- 2) Find the horizontal distance between the coordinates A(3, 9) and B(7, -4)
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- 3) Expand and simplify:

$$(x + 2)(x + 9)$$

- 4) Place the numbers A, B and C in ascending order:

A: 3.2×10^3

B: 3.3×10^2

C: 3.1×10^4

- 5) Some lettered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a vowel?

Week 12: Day 1 Answers

1) What is 54788 rounded to two significant figures? 55000

2) Find the horizontal distance between the coordinates
A(3, 9) and B(7, -4) 4 units

3) Expand and simplify:

$$(x + 2)(x + 9) = x^2 + 11x + 18$$

4) Place the numbers A, B and C in ascending order:

A: 3.2×10^3

B: 3.3×10^2

C: 3.1×10^4

B, A, C

5) Some lettered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a vowel? $\frac{3}{7}$

Week 12: Day 2

- 1) What is 9945 rounded to 1 significant figure?

- 2) Find the vertical distance between the coordinates A(-2, 6) and B(3, -4)

- 3) Expand and simplify:

$$(x + 3)(x - 1)$$

- 4) Place the numbers A, B and C in ascending order:

A: 5.65×10^5

B: 5.56×10^5

C: 5.065×10^6

- 5) Some lettered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a consonant?

Week 12: Day 2 Answers

1) What is 9945 rounded to 1 significant figure? 10000

2) Find the vertical distance between the coordinates
A(-2, 6) and B(3, -4) 10 units

3) Expand and simplify:

$$(x + 3)(x - 1) = x^2 + 2x - 3$$

4) Place the numbers A, B and C in ascending order:

A: 5.65×10^5

B: 5.56×10^5

C: 5.065×10^6

B, A, C

5) Some lettered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a consonant? $\frac{1}{2}$

Week 12: Day 3

1) What is 37.4188 rounded to three significant figures?

2) Find the horizontal distance between the coordinates A(-3, 1) and B(-5, -4)

3) Expand and simplify:

$$(x - 1)(3x - 5)$$

4) Place the numbers A, B and C in ascending order:

A: 2.33×10^{-4}

B: 3.27×10^{-6}

C: 4.52×10^{-3}

5) Some lettered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a letter with reflection symmetry?

Week 12: Day 3 Answers

1) What is 37.4188 rounded to three significant figures? 37.4

2) Find the horizontal distance between the coordinates
A(-3, 1) and B(-5, -4) 2 units

3) Expand and simplify:

$$(x - 1)(3x - 5) = 3x^2 - 8x + 5$$

4) Place the numbers A, B and C in ascending order:

A: 2.33×10^{-4}

B: 3.27×10^{-6}

C: 4.52×10^{-3}

B, A, C

5) Some lettered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a letter with reflection symmetry?

$\frac{7}{8}$

Week 12: Day 4

1) What is 30.06546 rounded to three significant figures?

2) Find the vertical distance between the coordinates
A(1, -9) and B(7, -4)

3) Expand and simplify:

$$(2x + 1)^2$$

4) Place the numbers A, B and C in ascending order:

A: 1.11×10^{-3}

B: 1.1×10^{-1}

C: 1.011×10^{-3}

5) Some numbered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a prime number?

Week 12: Day 4 Answers

1) What is 30.06546 rounded to three significant figures? 30.1

2) Find the vertical distance between the coordinates
A(1, -9) and B(7, -4) 5 units

3) Expand and simplify:

$$(2x + 1)^2 = 4x^2 + 4x + 1$$

4) Place the numbers A, B and C in ascending order:

A: 1.11×10^{-3}

B: 1.1×10^{-1}

C: 1.011×10^{-3}

C, A, B

5) Some numbered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a prime number? $\frac{3}{5}$

Week 12: Day 5

1) What is 0.008192 rounded to two significant figures?

2) Find the horizontal distance between the coordinates A(-1, 7) and B(5, -2)

3) Expand and simplify:

$$(3x - 2)(2x + 3)$$

4) Place the numbers A, B and C in ascending order:

A: 8.9×10^6

B: 9.88×10^5

C: 8.89×10^6

5) Some numbered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,

12 14 18 22 32 33

what is the probability of selecting a number that is a multiple of 2 and 3?

Week 12: Day 5 Answers

1) What is 0.008192 rounded to two significant figures? 0.0082

2) Find the horizontal distance between the coordinates
A(-1, 7) and B(5, -2) 6 units

3) Expand and simplify:

$$(3x - 2)(2x + 3) = 6x^2 + 5x - 6$$

4) Place the numbers A, B and C in ascending order:

A: 8.9×10^6

B: 9.88×10^5

C: 8.89×10^6

B, C, A

5) Some numbered tiles are placed in a bag and a tile is drawn at random. If the tiles in the bag are,



what is the probability of selecting a number that is a multiple of 2 and 3?

$$\frac{1}{3}$$

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