Knowledge Organiser

Maths

Year 11 Term 4 Foundation

Name:	
Homework	Due date
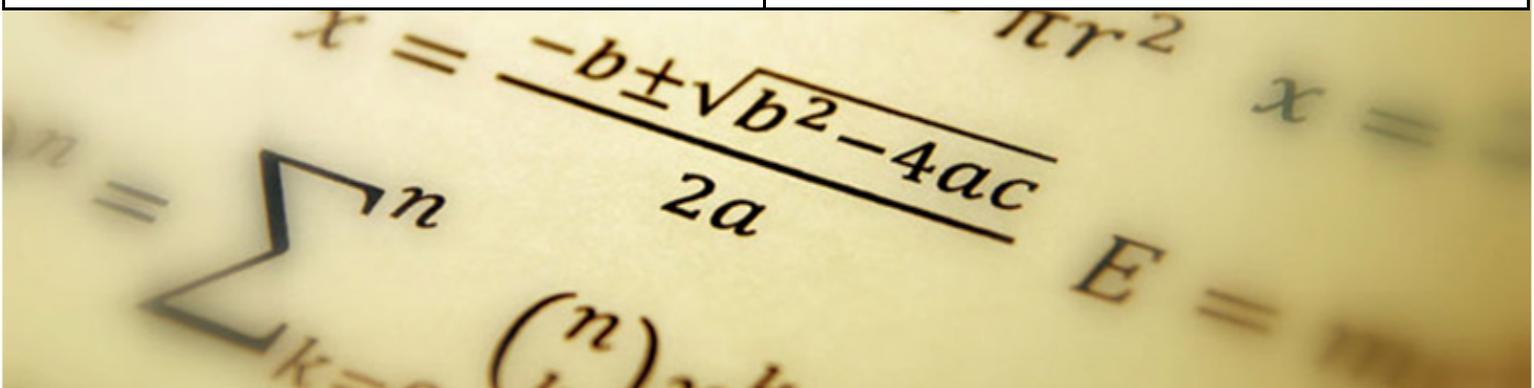
Year 11 Foundation Term 4 Overview

Data and Statistics

Tally charts	Bar graphs	Pictograms	Scatter graphs	Probability	Sample space diagrams
Pie charts	Stem and leaf	Frequency polygons	Cumulative frequency and box plots	Relative frequency	Probability trees

Ratio, proportion, fractions, decimals percentages

Simplify/scale up ratio	Equivalent fractions	Ordering decimals	Ordering fractions	FDP conversions	Percentages of amounts, increasing and decreasing
Divide into a ratio	Recipes and best value	Exchange rates	Calculating with fractions	Calculating with fractions	Compound interest

Useful Websites—Resources, Past Papers, Video Tutorials and Solutions

- https://corbettmaths.com/contents/

- https://vle.mathswatch.co.uk/vle/

  USERNAME: firstnamesurname@dustonschool

  PASSWORD: berrywood

- https://www.methodmaths.com/

  CENTRE ID: duston

  USERNAME: firstnamesurname   PASSWORD: berrywood

1.   There are 26 counters in a bag.

4 of the counters are yellow.
10 of the counters are blue.
8 of the counters are yellow.
The rest of the counters are green.

Maral takes a counter at random from the bag.

Show that the probability that this counter is yellow or green is $^6/_{13}$.

2.   Kelly completed a jigsaw in 4 minutes 50 seconds.

Raheem did the same jigsaw in 9 minutes 51 seconds.

Kelly says, "I completed the jigsaw in less than half the time than Raheem did."

Is Kelly right? You must show all your working.

3.   A pile of potatoes has a weight of 105 kg.

Some of the potatoes put into a small bag.

The rest of the potatoes is put into a large bag.

The potatoes in the small bag weighs 35 kg less than the potatoes in the large bag.

What is the weight of the potatoes in the small bag?

4.

A	B	C
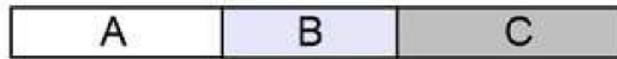
Here is a picture of a stick. The length of the stick is in 3 parts, A, B and C.

The total length of the stick is 28 cm.

Part A is 12 cm long and part B is 2 cm long.

Work out the length of part C.

5. Here are three cards. There is a number on each card.

8	9	1

a) Write down the smallest 3-digit number that can be made using each card only once.

b) Write down the largest 3-digit even number that can be made using each card only once.

6. Here is a café menu.

Menu

Cup of tea	75p
Cup of coffee	95p
Fruit Juice	60p
Burger	£2.45
Hot dog	£1.85
Chips	95p

Annasara wants to buy 1 x fruit juice 3 x cup of tea and 3 x burger. she has a £10 note.

Does Annasara have enough money?

You must give reasons for your answer.

1. Two numbers are added together to give 9.

   Both of the numbers are factors of 40.

   Both numbers are greater than 2.

   What are the two numbers?

2. The cost of 1.5 kg of oranges is £0.78.

   The total cost of 4.5 kg of oranges and 2.5 kg of melons is £4.79.

   Work out the cost of 1 kg of melons.

3. Paulina is going on holiday.

   She is going to take out a loan of £800 to help pay for the holiday.

   Paulina will have to pay back the £800 plus 20% interest over 12 months.

   She will pay back the same amount of money each month.

   How much money will Paulina pay back each month?

4. Which of these calculations has the largest answer?

   The sum of 13 and 20.

   The product of 6 and 5.

   The difference between 90 and 73.

   Show how you decide.

5. Adeeba is going to buy a new laptop.

The laptop has a price of £360.

Adeeba pays a deposit of 15% of the price of the laptop.

How much money does Adeeba pay as a deposit?

6. Here are 4 numbers.

$\frac{2}{5}$, 0.46, $\frac{9}{20}$, $\frac{9}{25}$,

Write these numbers in ascending order of size.

7.

Item	Price £
Ruler	0.35
Pen	0.14
Rubber	0.17

Ghadi has £20 to spend on pens and rubbers.

She has to buy the same number of pens as rubbers.

What is the greatest number of pens she can buy?

8. Ayoub and his 4 children are going to London by train.

An adult ticket costs £60 and a child ticket costs £30.

Ayoub has a family railcard which gives $\frac{1}{3}$ off adult tickets and 60% off child tickets.

Work out the total cost of the tickets when Ayoub uses his family railcard.

**1.**   The diagram shows a rectangle and a square.

Diagram not
accurately drawn
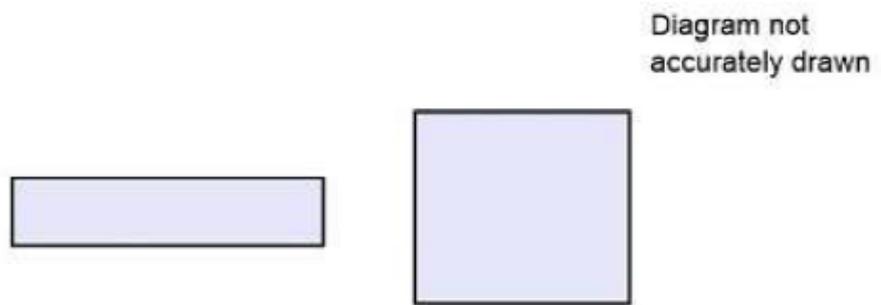
The rectangle is 8 cm long and 2 cm wide.

The perimeter of the rectangle is the same as the perimeter of the square.

Work out the length of one side of the square.

2.   Here is a probability scale.

It shows the probability of the events A, B, C, D and E.

A	B	C	D	E

0 $\frac{1}{2}$ 1
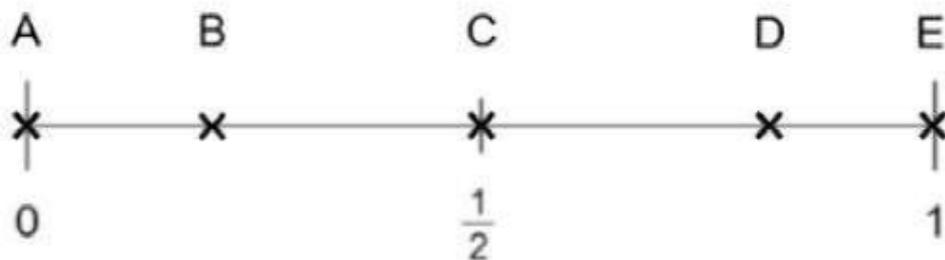
a) Write down the letter of the event that is certain.

b) Write down the letter of the event that is unlikely.

3.   Umar and his 2 children are going to Sheffield by train.

An adult ticket costs £42 and a child ticket costs £21.

Umar has a family railcard which gives $\frac{1}{6}$ off adult tickets and 50% off child tickets.

Work out the total cost of the tickets when Umar uses his family railcard.

4. There are 26 counters in a bag.

5 of the counters are green.
9 of the counters are orange.
4 of the counters are purple.
The rest of the counters are pink.

Dawid takes a counter at random from the bag.

Show that the probability that this counter is purple or pink is $\frac{6}{13}$.

5. Which of these calculations has the smallest answer?

The sum of 20 and 16.

The product of 5 and 8.

The difference between 63 and 48.

Show how you decide.

6. There are 27 counters in a bag.

8 of the counters are black.
10 of the counters are white.
7 of the counters are brown.
The rest of the counters are red.

Maria takes a counter at random from the bag.

Show that the probability that this counter is brown or red is $\frac{1}{3}$.

7. Which of these calculations has the largest answer?

The sum of 17 and 11.

The product of 3 and 7.

The difference between 64 and 38.

Show how you decide.