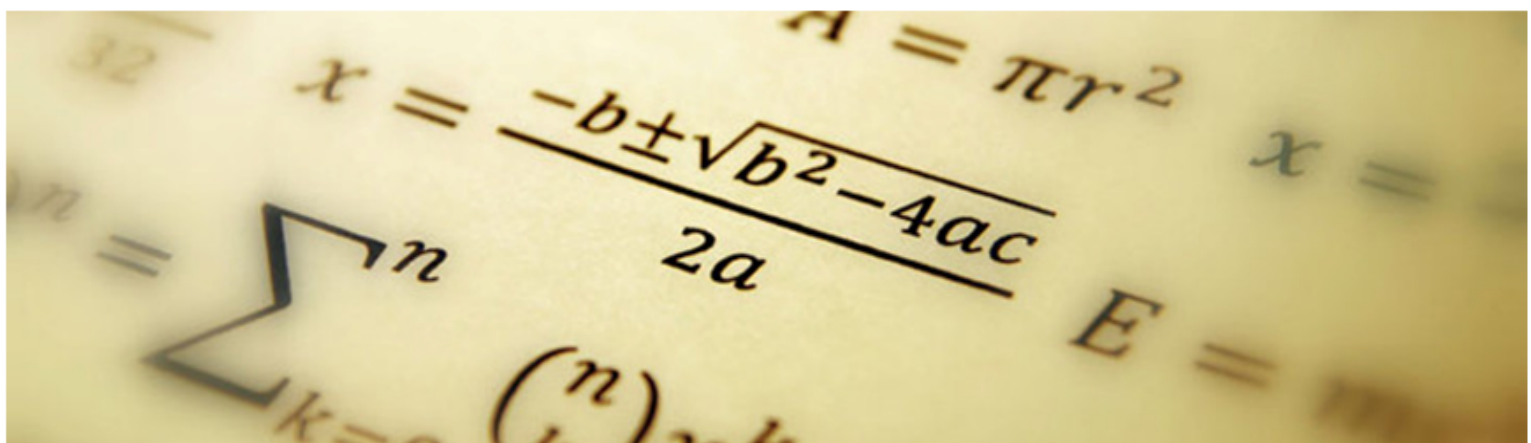


THE
DUSTON^{TDS}₄₋₁₉
SCHOOL

Knowledge Organiser *Maths*

Year 11 Term 4 Intermediate



Year 11 Intermediate Term 4 Overview

Data and Statistics

Stem and leaf	Scatter graphs	Pie charts	Reverse mean problem	Sampling	Probability & Relative frequency	Sample space diagrams
Box plots	Cumulative frequency	Frequency polygon	Averages from tables	Time series	Probability trees	Set theory (with Venn diagrams)

Ratio, proportion, Fractions, decimals and percentages

Divide into a ratio	Ratio	FDP conversions	Percentages of amounts, increasing and decreasing	Compound interest
Recipes and best value	Exchange rates	Calculating with fractions	Compound interest	Reverse percentages

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

Term 4—Homework 1 - Intermediate Exam Questions Due.....

1. Two numbers are added together to give 11.

Both of the numbers are factors of 72.

Both numbers are greater than 2.

What are the two numbers?

2. One kilogram of cheese costs £4.10.

Frank buys 900 g of cheese.

Work out how much Frank pays.

3. Two numbers are added together to give 13.

Both of the numbers are factors of 80.

Both numbers are greater than 2.

What are the two numbers?

4. Two numbers are added together to give 15.

Both of the numbers are factors of 168.

Both numbers are greater than 2.

What are the two numbers?

5. The diagram shows a rectangle and a square.

Diagram not
accurately drawn

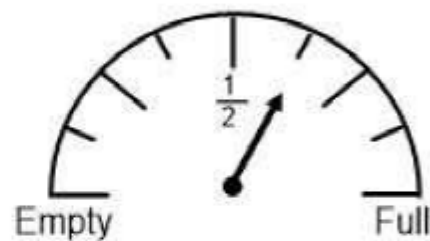


The rectangle is 4 cm long and 8 cm wide.

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

Work out the length of one side of the square.

6. A petrol tank holds 64 litres of petrol when it is full.



The scale shows information about how much petrol there is in the petrol tank.

Work out the number of litres of petrol in the petrol tank.

7. Write down the first even multiple of 9.

8. Ebenezer is driving to France for his holiday.

He will drive a total distance of 275 miles.

Ebenezer sets off at 05:45.

It takes him 2.5 hours to travel the first 125 miles.

Use this information to estimate the time Ebenezer will arrive.

Term 4—Homework 2 - Intermediate Exam Questions Due.....

1. A piece of wire is 410 cm long.

Mustafa cuts three 35 cm lengths off the wire.

He then cuts the rest of the wire into as many 45 cm lengths as possible.

Work out how many 45 cm lengths of wire Mustafa cuts.

2. Paulina is going to buy a new laptop.

The laptop has a price of £260.

Paulina pays a deposit of 35% of the price of the laptop.

How much money does Paulina pay as a deposit?

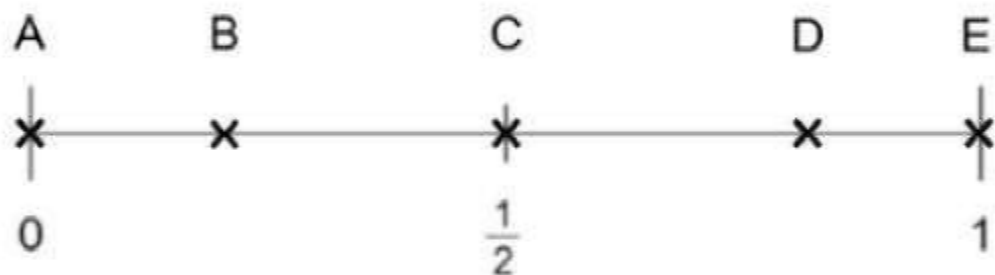
3. a) Write down the 23rd positive odd number.

The sum of two consecutive even numbers is 78.

b) Find the smaller of these two even numbers.

4. Here is a probability scale.

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



a) Write down the letter of the event that is evens.

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

5. a) Write down the 21st positive odd number.

The sum of two consecutive even numbers is 102.

- b) Find the larger of these two even numbers.

6. Two numbers are added together to give 14.

Both of the numbers are factors of 144.

Both numbers are greater than 2.

What are the two numbers?

7. Given that $g : h = 6 : 7$ and $h : j = 1 : 4$.

Find the ratio $g : h : j$.

Give your answer in its simplest form.

8. A bonus of £3600 is shared by 8 people who work for a company.

30% of the bonus is shared equally between 2 managers.

The rest of the bonus is shared equally between 6 salesmen.

A salesmen says, "If the bonus is shared equally between all 8 people I will get at least 10% more money."

Is the salesman correct? Show how you get your answer.

Term 4—Homework 1 - Intermediate Exam Questions Due.....

- 1.** Which of these calculations has the largest answer?

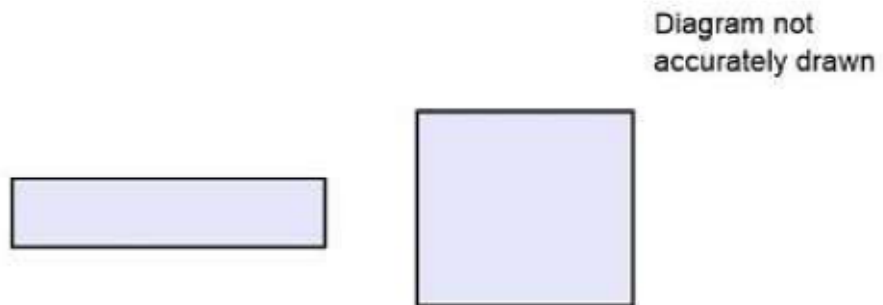
The sum of 14 and 14.

The product of 3 and 4.

The difference between 72 and 46.

Show how you decide.

- 2.** The diagram shows a rectangle and a square.



The rectangle is 10 cm long and 4 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.

- 3.** Raphael drove 100 km from Glossop to Northbury.

He then drove 35 km from Northbury to Murkwell.

Raphael's average speed from Glossop to Northbury was 50 km/h.

Raphael took 30 minutes to drive from Northbury to Murkwell.

Work out Raphael's average speed for his total drive from Glossop to Murkwell.

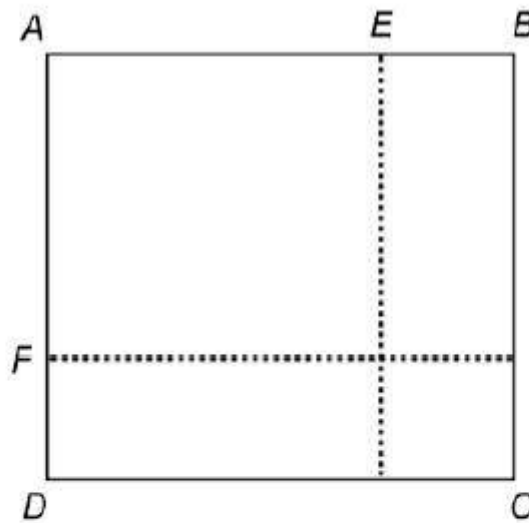
4. The interior angle of a regular polygon is 9 times the size of its exterior angle.
Work out how many sides the polygon has.

5. The equation of the line L_1 is $4y = 4x + 24$.

The equation of the line L_2 is $2y - 2x = 2$.

Show that these two lines are parallel.

6.



The area of square ABCD is 40 mm^2 .

$AE = AF = 1 \text{ mm}$.

$EB = DF = x \text{ mm}$.

Show that $x^2 + 2x = 39$.

7. Triangle ABC has perimeter 29 cm.

$AB = 13 \text{ cm}$ and $BC = 5 \text{ cm}$.

Is triangle ABC a right-angled triangle? Show clearly how you decide.