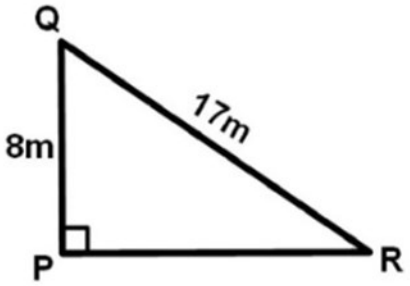
Day 6
Number, Shape & Space

Question 1 – Foundation & Higher Tier GCSE

Calculate the length of PR here:



Question 2 – Foundation & Higher Tier GCSE

Pair up these cards and decide what should go in the empty one:

T varies directly with the square of p	$T = kp^3$	T is inversely proportional to $\sqrt{p}$	?
$T = \frac{k}{p^2}$	T is inversely proportional to p	$T = \frac{k}{\sqrt{p}}$	T is directly proportional to p^3
T is inversely proportional to p^2	$T = \frac{k}{p^3}$	T varies inversely with p^3	$T = kp^2$

Question 1 — Yesterday's solutions — Question 2

Fraction	Decimal	Percentage
$\frac{2}{5}$	0.4	40%
$\frac{11}{20}$	0.55	55%
$\frac{7}{10}$	0.7	70%
$\frac{3}{100}$	0.03	3%
$\frac{21}{25}$	0.84	84%

$a = 4.5$ and $c = -1$

Day 7
Statistics & Number

Question 1 – Foundation & Higher Tier GCSE

Mark and Jack are members of an archery club. They each fire 20 arrows at the target. Here are their results:

	Mean	Range
Mark	7.8	6
Jack	7.5	3

Jack says: "I am more consistent than you Mark, but you're better overall"

Explain fully why Jack is correct

Question 2 – Higher Tier GCSE only

Bethan has improved her Maths test mark by 20% on two consecutive occasions.

Well done Beth!

If her latest score is 288 marks, what was her first score?

Question 1

Pythagoras: $17^2 = PR^2 + 8^2$

$289 - 64 = PR^2$

$\sqrt{225} = PR$

$PR = 15cm$

Yesterday's solutions

Question 2

$$T = \frac{k}{p}$$

Day 8
Number & Algebra

Question 1 – Foundation & Higher Tier GCSE

Unfortunately Dillan has made a few errors below.
Can you spot them all? (Not all answers are wrong!)

(a) Simplify $3a \times 4a^3$ = **$7a^3$**

(b) 360 as a product of primes = **$2^3 \times 3^2 \times 5$**

(c) 5% off £120 = **£100**

(d) Simplify 10 : 5 = **5 : 1**

Question 2 – Foundation & Higher Tier GCSE

Solve these equations:

(a) $a^2 - 49 = 0$

(b) $(y - 5)(y + 6) = 12$

Question 1

Jack is more consistent because he has a narrower range and Mark is overall better because he has a slightly higher average

	Mean	Range
Mark	7.8	6
Jack	7.5	3

Yesterday's solutions

120% = £288 (Test 3)
→100% = £240 (Test 2)
120% = £240 (Test 2)
→100% = £200 (Test 1)

Question 2

Day 9
Geometry & Measures

Question 1 – Foundation & Higher Tier GCSE

Find the odd one out in each of these:

(a) 4.2km , 4200m , 42 000cm

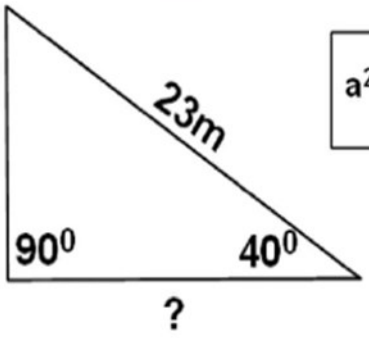
(b) 5.6 litres , 56cl , 560ml

(c) 7 tonnes , 700kg , 700 000g

(d) 2 feet , 12 inches , 60cm

Question 2 – Higher Tier GCSE only

Jodie and Lizzie are always arguing about which trig formula to use. Decide which they should use here:



$a^2 = b^2 + c^2 - 2bc\cos A$

$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

$\sin x = \frac{O}{H}$ $\cos x = \frac{A}{H}$ $\tan x = \frac{O}{A}$

Question 1

Mistakes underlined, correct answers in blue:

(a) Simplify $3a \times 4a^3 = \underline{7}a^3 = 12a^4$

(b) 360 as a product of primes $= 2^3 \times 3^2 \times 5$

(c) % off £120 = £100 = 120 – 100 = £20

(d) Simplify 10 : 5 = $\underline{5}$: 1 = 2 : 1

Yesterday's solutions

$a^2 - 49 = 0$

$(a - 7)(a + 7) = 0$

$a = 7$ or $a = -7$

Question 2

$(y - 5)(y + 6) = 12$

$y^2 + 6y - 5y - 30 = 12$

$y^2 + y - 42 = 0$

$(y + 7)(y - 6) = 0$

$y = -7$ or $y = 6$

Day 10
Probability & Statistics

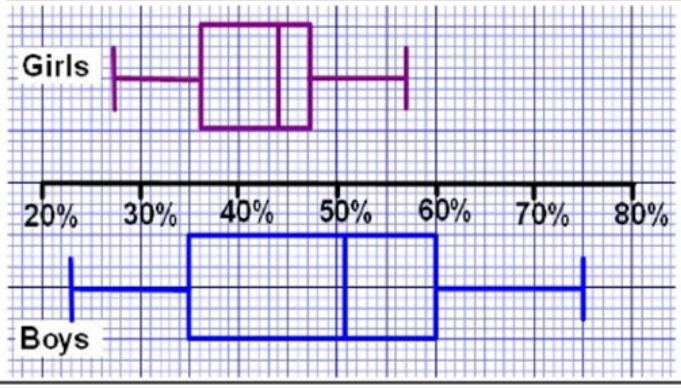
Question 1 – Foundation & Higher Tier GCSE

Marcus has these four coins in his pocket. He takes them out at random one at a time and places them on a table.

(a) List all the possible ways that the coins could come out

(b) What is the probability of him getting them in the order below?

Question 2 – Higher Tier GCSE only



These box plots show how well Girls and Boys in 11F set 1 did in a maths test.

(a) On average who did best?

(a) Who were more consistent?