

Ysgol Uwchradd Caergybi

Mathematics Department Homework Pack

Year 7 Module 3 Higher

Topic	Page	Date	Mark %	Comments / To Improve
Fractions	1	.....	.....	..........
Percentages	2	.....	.....	..........
Algebra	3	.....	.....	..........
Coordinates	4	.....	.....	..........
Averages	5	.....	.....	..........
Challenge 1	6	.....	.....	..........
Challenge 2	7	.....	.....	..........

Name

Class Teacher

Name

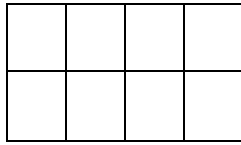
Fractions

$\frac{\dots}{25} \times 100 = \dots\%$

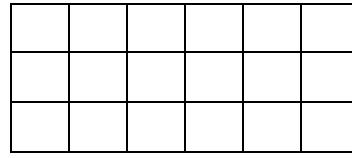
1. Shade the following correctly

[2]

a. $\frac{5}{8}$



b. $\frac{1}{3}$



2. Find

a. $\frac{1}{4}$ of £24 [1]

d. $\frac{3}{4}$ of £24..... [2]

.....

.....

b. $\frac{1}{6}$ of £48 [1]

e. $\frac{5}{6}$ of 48kg [2]

.....

.....

c. $\frac{1}{12}$ of £72 [1]

f. $\frac{7}{9}$ of 72kg [2]

.....

.....

3. Write the following fraction in it's simplest form

[4]

a. $\frac{20}{50}$

b. $\frac{24}{45}$

4. Change to an improper fraction.

Change to a mixed number

[4]

a. $2\frac{3}{5}$

b. $\frac{15}{7}$

5. Fill in the following table

[6]

Fraction	Decimal	Percentage
$\frac{3}{4}$	.....	.....
.....	0.20	.....
.....	.....	5%

To improve I need to

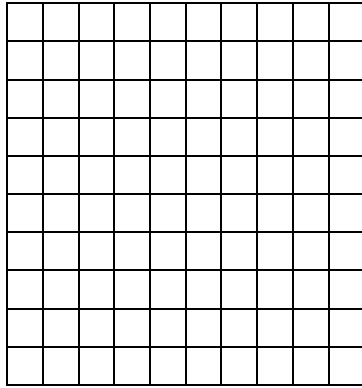
Name

Percentages

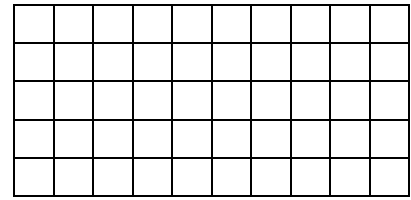
$\frac{\dots}{25} \times 100 = \dots\%$

1. Shade the following correctly

a. 17%



b. 20%



[4]

2. Write the following fractions as a percentage

[3]

b. $\frac{40}{100}$ %

b. $\frac{32}{50}$ %

c. $\frac{6}{20}$ %

3. Write the following decimals as percentages

[3]

c. 0.40%

b. 0.07%

c. 0.3%

4. 8% of pupils in 7C were **absent** on Monday .

Write what percentage were **present**

[2]

5. Find

a. 50% of 600cm [1]

e. 10% of 465m [1]

d. 25% of £48 [2]

f. 5% of 84kg [2]

e. 75% of £80 [2]

g. 20% of £260 [2]

f. 10% of 130kg [1]

h. 15% of £34 [2]

.....

To improve I need to

Name

Algebra

$\frac{\dots}{25} \times 100 = \dots\%$

1. Simplify

a. $4a + 5a + 6b + 2b$

.....

b. $7a - 3a + 6b + 8b$

.....

c. $2a + 5b + 4a - 3b$

.....

d. $8a + 4b - 5a - 5b$

.....

[8]

2. Rewrite the following fractions using the rules of Algebra

a. $F = m \times g$

.....

b. $A = b \times h \times 2$

.....

c. $s \div t = v$

..... [3]

3. Write the following sentence as Algebraic Formula

[2]

a. **Speed equals distance divided by time**

b. **Volume equals area multiplied by length**

4. Use the following values and substitute into the expressions.

$a = 4$

$b = 3$

$c = 2$

a. $a + b + c$

..... [1]

.....

b. $3a + 2b$

..... [2]

.....

c. $5c - b^2$

..... [2]

.....

d. ab

..... [1]

.....

d. ac^2

..... [2]

.....

e. $(ac)^2$

..... [2]

.....

5. If $a - b = 7$ and $ab = 18$ find the values of 'a' and 'b'

[2]

$a = \dots\dots\dots$

$b = \dots\dots\dots$

To improve I need to

Name

Coordinates

$$\frac{\dots}{20} \times 100 = \dots\%$$

Write down

a. the coordinates of A, B, C, D and E

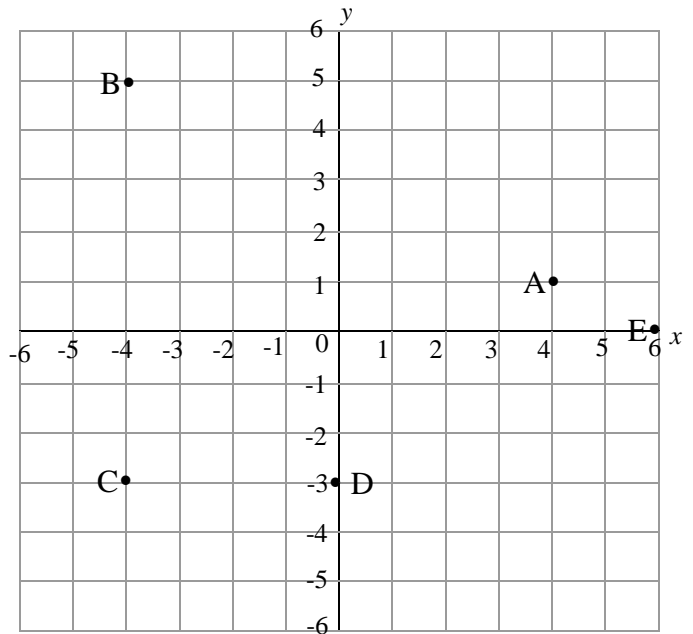
A(.....,) [2]

B(.....,) [2]

C(.....,) [2]

D(.....,) [2]

E(.....,) [2]



b. BCDG are corners of a rectangle what are the coordinates of G (....,) [2]

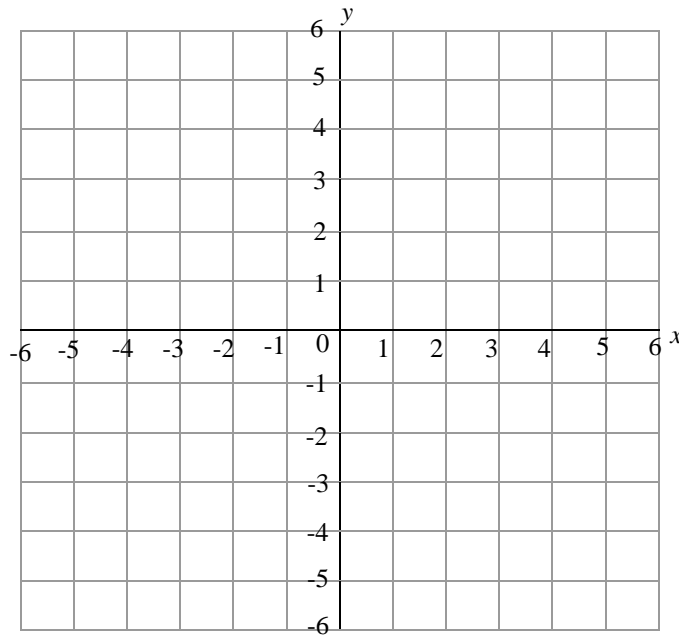
2. On the grid below.

a. Plot and label correctly A(4, 2) B(-2, 2) [2]

b. Mark and plot the mid point of A and B and Label **M** [1]

c. Plot and label correctly C(-5, 5) D(-3, -1) [2]

d. Mark and plot the mid point of C and D and Label **N** [1]



3. On the grid above draw and label the lines a. $x = 5$ b. $y = -4$ [2]

To improve I need to

Name

Averages

$\frac{\dots}{20} \times 100 = \dots\%$

1. The following are the marks out of 20, nine pupils achieved in their maths homework

18 14 20 17 6 11 8 12 14 16


- a. Work out the mean value [3]
- b. Write down the mode [1]
- c. Find the median [2]
- d. Work out the range [1]

2. Mrs Cabbage made a survey of the number of pieces of fruit ten pupils from class **7.A** had in the last week

3 10 7 1 3 6 9 11 4 12

- a. Work out the mean value [3]
- b. Write down the mode [1]
- c. Find the median [2]
- d. Work out the range [1]

3. John weighed 5 packs of smarties and found the mean weight to be 60g

The weights were 56g, 62g, g, 59g, 64g.

Ink was spilt on the his worksheet over one of the values

Find the missing value [3]

4. Use the following facts to find the missing numbers [3]

Mode = 5 Median = 5 Range = 6

2				7	
---	--	--	--	---	--

To improve I need to

Maths Challenge - 1

What is 20% of 30% of 40% of £50?

.....
.....
.....

On Monday the Pied Piper caught 1000 rats in a city. On Tuesday he caught 10% fewer rats than on Monday. On Wednesday he caught 20% more than on Tuesday. On Thursday he caught 30% fewer than on Wednesday. On Friday he rested. How many rats did he catch in total that week?

.....
.....
.....
.....
.....

A little monkey had 60 peaches.

On the **first** day he decided to keep $\frac{3}{4}$ of his peaches.

He gave the rest away. Then he ate one.

On the **second** day he decided to keep $\frac{7}{11}$ of his peaches.

He gave the rest away. Then he ate one.

On the **third** day he decided to keep $\frac{5}{9}$ of his peaches.

He gave the rest away. Then he ate one.

On the **fourth** day he decided to keep $\frac{2}{7}$ of his peaches.

He gave the rest away. Then he ate one.

On the **fifth** day he decided to keep $\frac{2}{3}$ of his peaches.

He gave the rest away. Then he ate one.

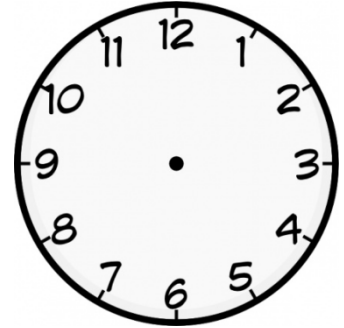
How many did he have left at the end?

.....
.....

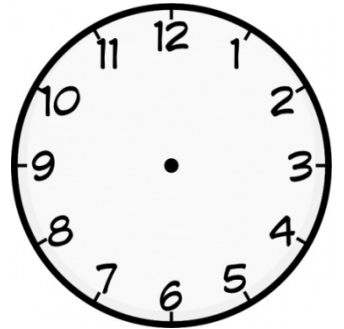
Maths Challenge - 2

Clock Face

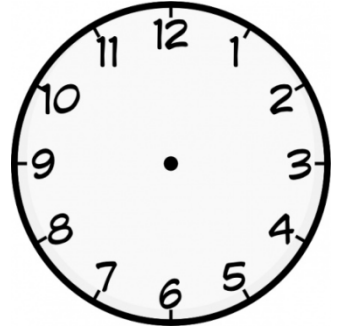
Can you draw a straight line across the centre of a clock face so that the numbers on both sides of the line have the same total?



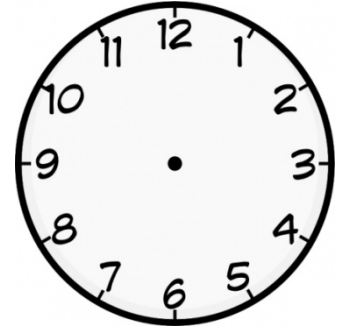
Can you draw two lines (like the hands of the clock) to divide the clock face so that the total of the numbers on one side of the lines is twice the total on the other side?



Can you divide the clock face so that that the total on one side of the lines is five times more than the total on the other side?



Can you draw two lines to divide the numbers so that the total of the numbers on each side of the lines are both multiples of six?



Can you draw two lines so that the numbers on each side add to a prime number?

