

Ysgol Uwchradd Caergybi

Mathematics Department Homework Pack

Year 9 Module 9 Higher

Topic	Page	Date	Mark %	Comments / To Improve
Pythagoras	1 - 2	.....	.....	..........
Fraction	3 - 4	.....	.....	..........
Accuracy	5	.....	.....	..........
Standard Form	6	.....	.....	..........
Construction	7	.....	.....	..........
Numeracy -1	8	.....	.....	.....
Numeracy-2	9	.....	.....	.....
Numeracy-3	10	.....	.....	.....
Numeracy-4	11	.....	.....	.....

Name

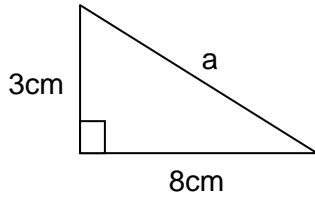
Class Teacher

Name

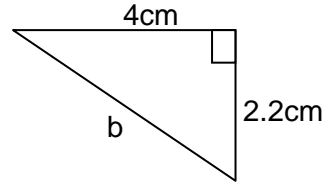
Pythagoras

$\frac{30}{100} \times 100 = \dots\%$

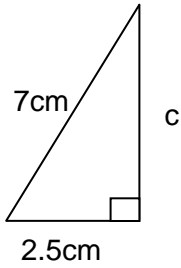
1. Find the missing length of each of these triangles **Answers to 1.d.p** [12]



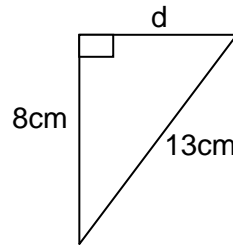
.....



.....



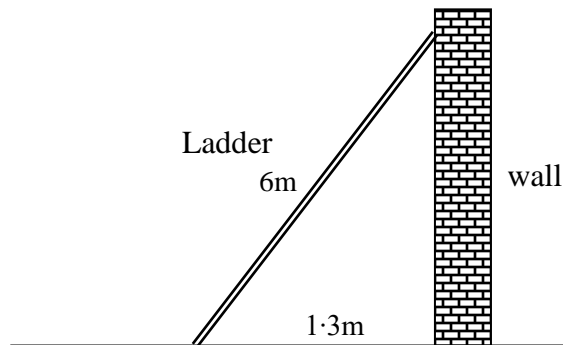
.....



.....

2. The length of the ladder is 6m The distance of the ladder from the wall is 1.3m
 How high does the ladder reach up the ladder? [3]

.....

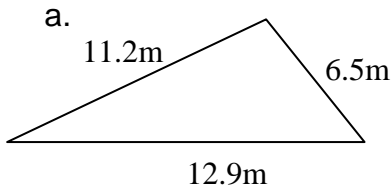


3. PQRS is a rectangle in which PQ = 16.4 metres and QR = 9.5 metres. [4]
Calculate the length of the diagonal PR.

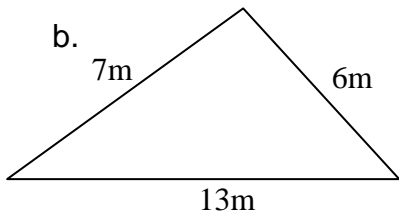


.....

4. Which of the following triangles are right angle triangles ?
Show all your working out. Write Right angle or Non right angle for each one

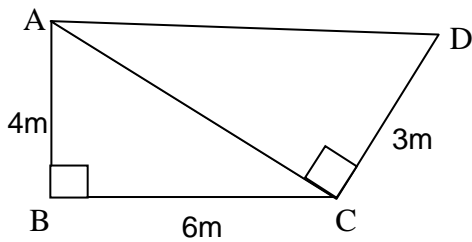


..... [3]



..... [3]

5. ABCD is made up of two right angle triangles, ABC and ACD,
 AB = 4m, BC = 6m and CD = 3m. Calculate the length of the line AD. [5]



.....

To improve I need to

Name

Fractions

$\frac{\dots}{36} \times 100 = \dots\%$

1. Circle the fractions that are equivalent to $\frac{1}{5}$. [2]

$\frac{2}{12}$ $\frac{2}{10}$ $\frac{5}{25}$ $\frac{3}{20}$ $\frac{6}{20}$

2. Each month Simon earns £600. He uses $\frac{1}{5}$ of this amount to repay a loan on his car.
How much does Simon repay on his car each month? [1]

.....

3. A box contains 42 wine glasses. The box is dropped and $\frac{5}{6}$ of the glasses are broken. How many glasses are broken? [2]

.....

4. Simplify the following

a. $\frac{35}{60}$ [2] $\frac{27}{48}$ [2]

5. Find the following

a. $\frac{1}{4} + \frac{3}{8}$ [3]

b. $\frac{2}{5} + \frac{3}{6}$ [3]

6. Find the following

a. $\frac{7}{10} - \frac{1}{4}$ [3]

b. $\frac{9}{10} - \frac{2}{8}$ [3]

7. Find the following

a. $\frac{3}{4} \times \frac{2}{5}$ [3]

b. $\frac{8}{15} \times \frac{4}{12}$ [3]

8. Find the reciprocal of the following [3]

a. $\frac{3}{4}$ b. 13 c. 0.2

9. Find the following

a. $\frac{7}{10} \div \frac{2}{3}$ [3]

b. $\frac{5}{12} \div \frac{3}{4}$ [3]

To improve I need to

Name

Accuracy

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

1.

a. The height of a block of flats is measured to be 43m, to the nearest metre
The greatest and least values areand [2]

b. The length of a exercise book is measured to be 29.4cm to the nearest mm
The greatest and least values areand [2]

2. Blocks of wood are cut so that they have a mass of 10 kg measured to the nearest kg.

a. Write down the least and greatest possible values of the mass of a block of wood.
..... [2]

b. Find the least and greatest possible values of the mass of wood in 100 blocks.
..... [2]

3. A jug has a volume of 500 cm³, measured to the nearest 10 cm³.

a. Write down the least and greatest possible values of the volume of the jug.
..... [2]

b. Find the least and greatest possible values from 30 full jugs.
..... [2]

4. A rectangular garden has a length of 23m and a width of 8m, measured to the nearest metre.

a. Find the greatest and least perimeter of the garden [4]
.....
.....

b. Find the greatest and least area of the garden [4]
.....
.....

To improve I need to

1.

a. Write 20 million in standard form [1]

b. There are 1000mm in 1 meter, therefore 1mm can be written as 0.001m
Write this in standard form [1]

c. How would you write 1mm in terms of a km in standard form
..... [1]

2. Complete the following table [5]

a.

Planet / Sun	Diameter	
	Km	Standard Form
Sun	1392000	
Earth		1.27563×10^4
Mars	6794	
Jupiter	142984	
Pluto		2.39×10^3

b. How many times bigger is the sun than Earth? [2]

3. Without a calculator, by showing all your working out in full calculate the following

a. $4.5 \times 10^3 + 3.6 \times 10^2$ [3]
.....

b. $(4 \times 10^5) \times (3 \times 10^6)$ [3]
.....

4. You can use your calculator to calculate these

a. $(3.56 \times 10^6) \times (2.13 \times 10^7)$ [2]
.....

b. $(7.7 \times 10^8) \times (8.3 \times 10^{-5})$ [2]
.....

To improve I need to

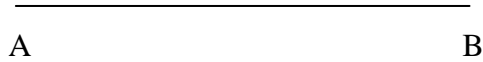
Name

Construction

$$\frac{\dots}{15} \times 100 = \dots\%$$

1.

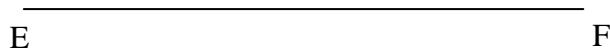
- a. Use a compass to 6cm equilateral triangle ABC, label fully [3]



- b. Bisect the Angle CAB using a compass (Show all your workings out) [3]

2.

- a. Draw the Perpendicular bisect of the line EF. [3]
b. Label it GH ,G above the line, H on the Line
Make line GH 4cm [2]



- c. Draw the lines GE and GF [2]
d. Measure the angle GEH [2]

To improve I need to

Name

Numeracy-1

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

ADDITION

1.

$$\begin{array}{r} 585 \\ + 268 \\ \hline \\ \hline \end{array}$$

2.

$$\begin{array}{r} 738 \\ + 589 \\ \hline \\ \hline \end{array}$$

NON CALCULATOR

3.

$$\begin{array}{r} 879 \\ + 686 \\ \hline \\ \hline \end{array}$$

4.

$$\begin{array}{r} 6699 \\ 872 \\ + 4367 \\ \hline \\ \hline \end{array}$$

5.

$$\begin{array}{r} 498 \\ 3073 \\ + 2809 \\ \hline \\ \hline \end{array}$$

6.

$$\begin{array}{r} 3237 \\ 5794 \\ + 8043 \\ \hline \\ \hline \end{array}$$

SUBTRACTION

7.

$$\begin{array}{r} 653 \\ - 64 \\ \hline \\ \hline \end{array}$$

8.

$$\begin{array}{r} 354 \\ - 86 \\ \hline \\ \hline \end{array}$$

9.

$$\begin{array}{r} 700 \\ - 48 \\ \hline \\ \hline \end{array}$$

10.

$$\begin{array}{r} 7006 \\ - 3285 \\ \hline \\ \hline \end{array}$$

11.

$$\begin{array}{r} 4000 \\ - 674 \\ \hline \\ \hline \end{array}$$

12.

$$\begin{array}{r} 7030 \\ - 4167 \\ \hline \\ \hline \end{array}$$

2 Marks each Question, 1 Mark for Working Out

To improve I need to

Name

Numeracy- 2

.....%

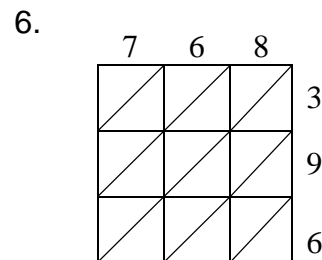
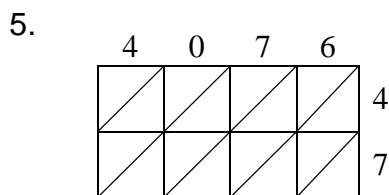
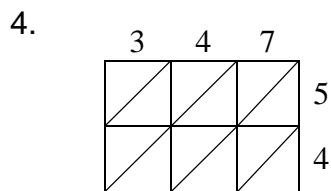
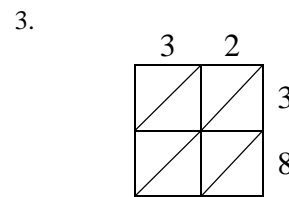
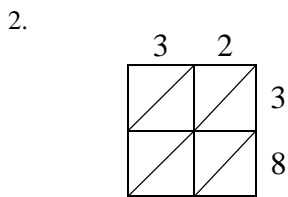
NON CALCULATOR Complete the multiplication grid

X	3	11	4	15	8	7	9	10	6	12
4										
11										
8										
13										
6										
7										
12										
10										
9										
5										

MULTIPLICATION

NON CALCULATOR

1.
$$\begin{array}{r} 787 \\ \times \quad 6 \\ \hline \\ \hline \end{array}$$



7.
$$5 \overline{) 3275}$$

8.
$$7 \overline{) 2485}$$

9.
$$12 \overline{) 420}$$

WITH REMAINDERS, Write the remainder as a decimal

10.
$$5 \overline{) 473}$$

11.
$$6 \overline{) 7639}$$

12.
$$8 \overline{) 5567}$$

2 Marks each Question, 1 Mark for Working Out

To improve I need to

Name

Numeracy-4

$$\frac{\dots}{15} \times 100 = \dots\%$$

You can use a calculator to answer the following

1. A local supermarket advertises Photo Printing

Charges are one payment of 70p plus 3p per photograph

- a. Sian prints 65 photographs, calculate how much she will have to pay. [3]

.....
.....

- b. Bob pays £1.66 including the 70p payment

How many photographs does Bob get? [3]

.....
.....

2. A classroom has an area of 63m², John goes to two different carpet shops and gets the following prices

‘Carpets are us’ Green Twirl @ £12.99 m² add Tax at 12%

‘Carpets for you’ Green Twist @ £14.35 m² includes Tax

- a. Calculate the Cost of buying both carpets [3]

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

Which Carpet is the cheapest and by how much [2]

.....

3. 80,102 spectators watched the 100m final of the Olympics.

If the ticket sales were £3,524,488 for the event ,

- a. What was the average cost of a ticket? [2]

.....

- b. G4 Security must provide one security person per 115 people, how many Security personnel are needed for the event ?

..... [2]

To improve I need to