

Holyhead High School Ysgol Uwchradd Caergybi

Mathematics Department Homework Pack

Year 7 Module 4 Intermediate

Topic	Page	Date	Mark %	Comments / To Improve
Negative	1	.....	.....	..........
Graphs	2 - 4	.....	.....	..........
Algebra (2)	5	.....	.....	..........
Sequences	6	.....	.....	..........
Transformations (1)	7	.....	.....	..........
Transformations (2)	8	.....	.....	..........

Name

Class Teacher

Name

Negative Numbers

$\frac{\dots}{33} \times 100 = \dots\%$

-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
-----	----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---	---	----

1. **Circle** the highest temperature

- a. -14°C or 2°C b. -5°C or 0°C c. -23°C or -24°C [3]

2. Write these temperatures in order, from the smallest to the largest [4]

- a. 15°C , -18°C , 0°C , -13°C , 21°C
- b. -7°C , -1°C , -4°C , 11°C , 0°C , 7°C

3. Use the correct sign $>$ or $<$

- a. 7°C 1°C b. -1°C 5°C c. -12°C -3°C [3]

4. What's the difference between the following numbers [3]

- a. -3 and 7
- b. -12 and 0
- c. -18 and -7

5. Find the answers to (use the number line to help you) [6]

- a. $2 - 6$ c. $-6 - 2$ e. $14 - 15$
- b. $-5 + 4$ d. $-10 + 7$ f. $-15 + 9$

6. Find the value of [6]

- a. 3×-5 d. -10×-5
- b. -6×7 e. -13×2
- c. -20×-3 f. -5×-5

7. Find the value of [8]

- a. $30 \div -5$ c. $-18 \div 6$
- b. $-21 \div -3$ d. $-20 \div 0.5$

To improve I need to

Name

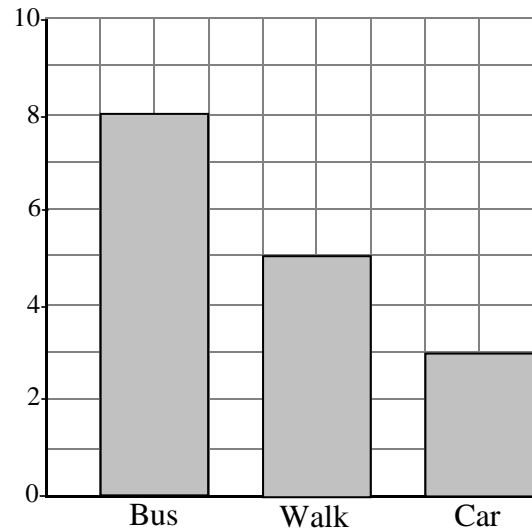
Graphs

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

1. The bar graph shows how the pupils from class 7.1 get to school.

a. How many people go by car to school [2]

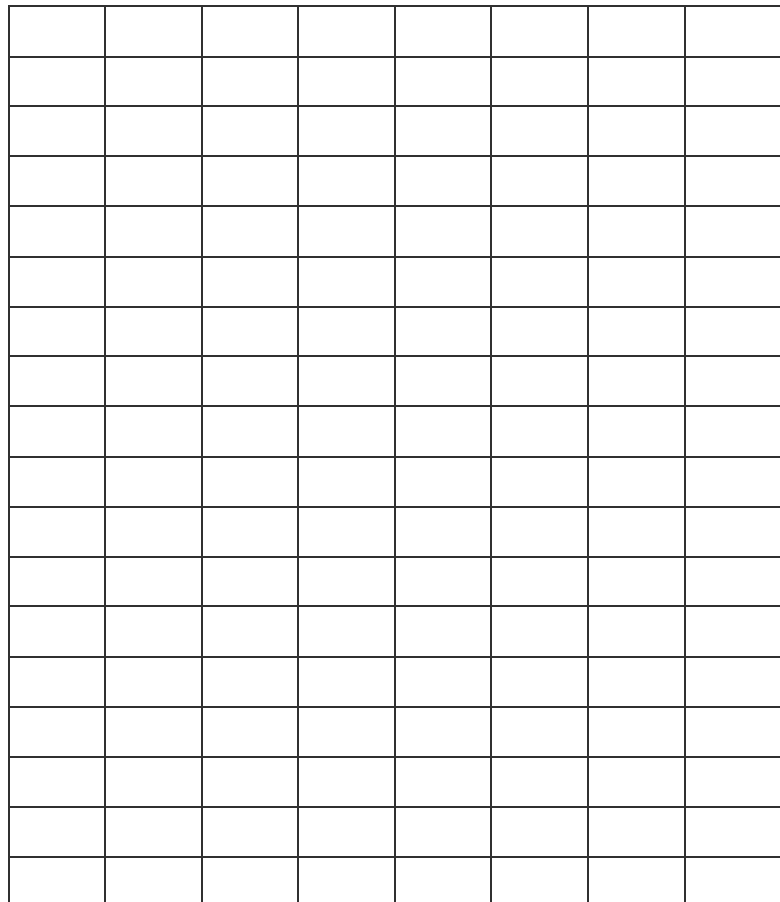
b. How many pupils are in 7.1 ? [3]



2. Use the information from the table to draw a bar graph.

Remember to label the graph correctly and use a ruler. [5]

'How Class 7.5 get to school'	Bus	Walk	Car
Number of pupils	11	16	6



3. The pictogram below shows the number of different types of crisps that a shop sells



= 20 packets

- a. How many prawn cocktail crisps were sold? [1]
- b. How many cheese & onion crisps were sold? [2]
- c. What was the total number of crisps sold? [3]

Cheese & Onion	
Salt & Vinegar	
Prawn Cocktail	
Ready Salted	
Chicken	

4. Use the information below to draw a pictogram. Number of hours of Sunshine over Easter

Use to represent 2 hours [4]

Day of the week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Sunshine hours	8	5	10	7	9	4	3

Number of people in household	Number of hours of Sunshine
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

5. The following table shows the results of a maths test.

15 26 8 11 17 28 30 9 12 22
 25 14 18 20 16 11 25 19 27 5

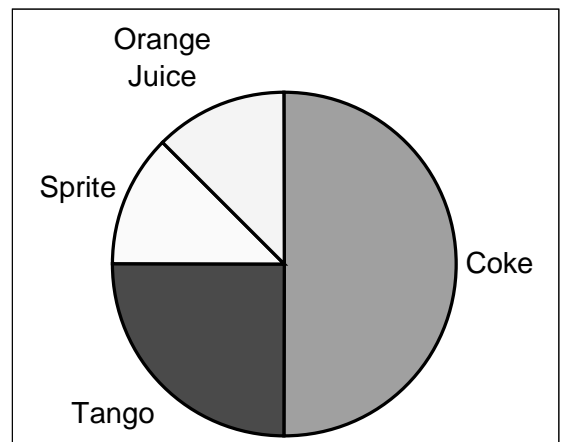
a. Complete the tally table . [4]

Marks	Tally	Frequency
1 – 10		
11 – 20		
21 – 30		
Total		

b. Which group had the most pupils in it ?
 [1]

6. The pie chart shows the results of a survey of year 7 boys and their favourite drink.

20 Boys like Coke.



a. How many boys liked Tango ?
 [1]

b. How many boys were in the survey ?
 [2]

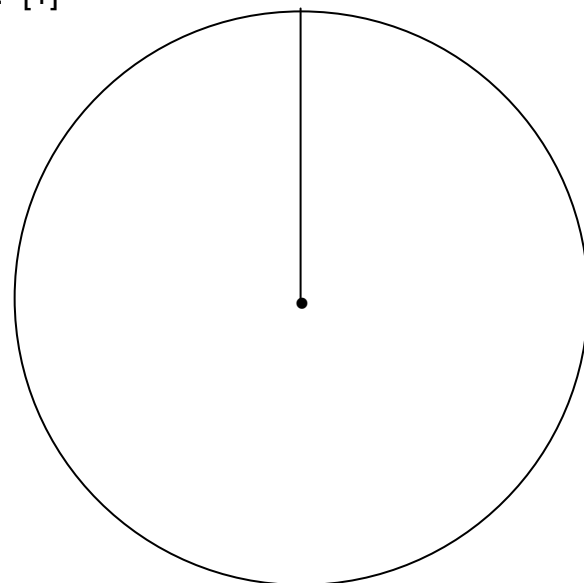
7. The following data shows the favourite take away of pupils from year 7 in year 7

a. Calculate the (Magic Number) $360 \div 90 = \dots\dots\dots$ [1]

b. Complete the table [3]

c. Draw the angles on the Pie chart [3]

Type	Freq		Angle
Fish and Chips	40	40 x	
Pizza	20	20 x	
Curry	10	10 x	
Kebab	10	10 x	



To improve I need to

Name

Algebra (2)

$\frac{\dots}{27} \times 100 = \dots\%$

1. RECAP - Simplify

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

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

.....

.....

2. RECAP - Use the following values and substitute into the expressions.

$a = 4 \quad b = 3 \quad c = 5$

a. $2a + 4b - c$

b. $5b + c^2$

.....

.....

3. I'm thinking of a number

a. I add 6 to get 35 what number am I thinking of ? [1]

b. I subtract 16 to get 42 what number am I thinking of ? [1]

c. I multiply by 7 to get 63 what number am I thinking of ? [1]

d. I multiply a number by 3 and then add 6 to get 21
what number am I thinking of ? [2]

2. Solve the following. **You must show full workings out.** [16]

a. $x + 7 = 18$

e. $3x = 27$

.....

.....

.....

.....

b. $x - 13 = 41$

f. $4x = 14$

.....

.....

.....

.....

c. $x + 9 = 2$

g. $\frac{x}{5} = 6$

.....

.....

.....

.....

d. $x - 8 = 13$

g. $\frac{x}{3} = 4$

.....

.....

.....

.....

3. Solve the following. **You must show full workings out** [6]

a. $2x + 3 = 15$

$8x + 8 = 40$

.....

.....

.....

.....

.....

.....

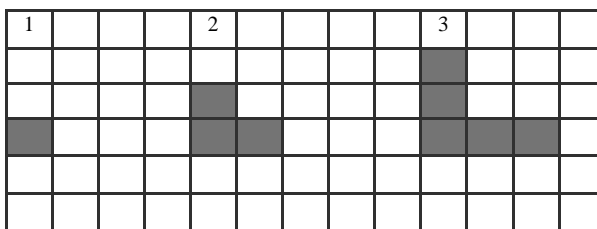
To improve I need to

Name

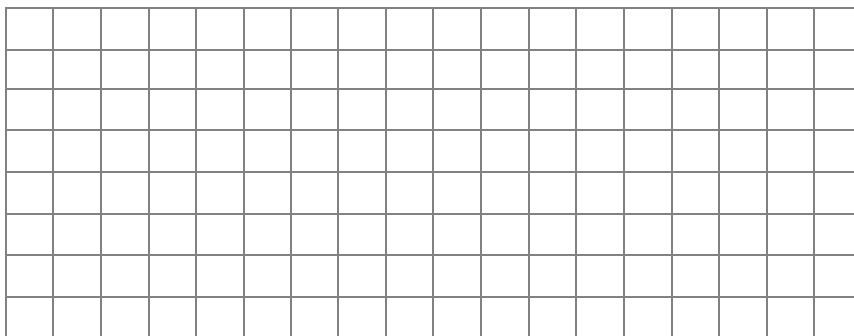
Sequences

$\frac{\dots}{26} \times 100 = \dots\%$

Look at the following patterns



a. Draw the 4th and 5th pattern [4]



b. Complete the table. [3]

Pattern No	1	2	3	4	5
Number of Tiles					

2. For each of the following number patterns

- a. Write the next three terms
- b. the rule to get from term to the next

- i. 14, 17, 20,,, rule [3]
- ii. 3, 10, 17,,, rule [3]
- iii. 28, 23, 18,,, rule [3]

3. Fill in the missing blanks

- a. 3, 9,,, 27 [2]
- b. 32,,, 17, 12 [2]

4. Complete the formulas for the nth terms for each of the following sequences

- a. 6, 10, 14, $4n + \dots$ [2]
- b. 2, 7, 12, $\dots n - 3$ [2]

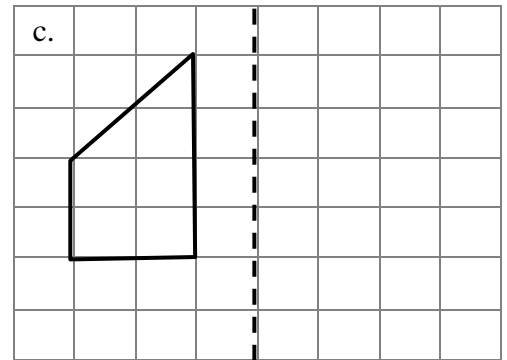
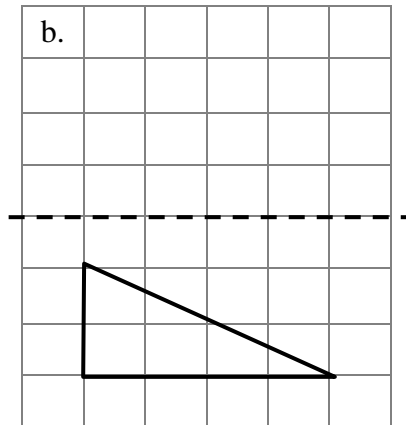
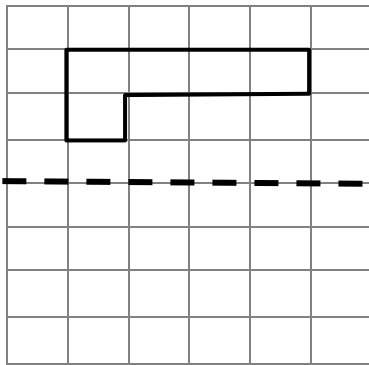
To improve I need to

Name

Transformations (1) $\frac{33}{21} \times 100 = \dots\%$

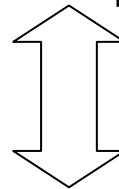
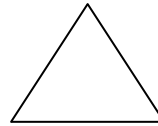
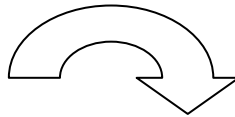
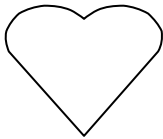
1. Draw the reflections of these shapes in the line of symmetry

[6]



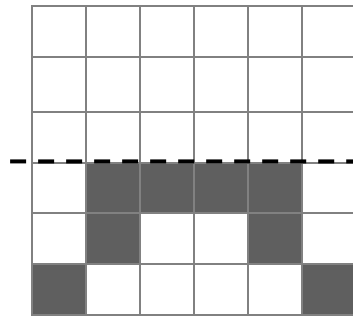
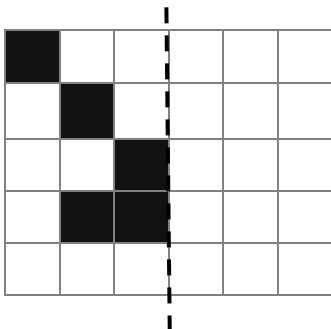
2. Draw all the lines of symmetry on the following shapes

[4]



3. Shade so there is symmetry either side of the mirror line

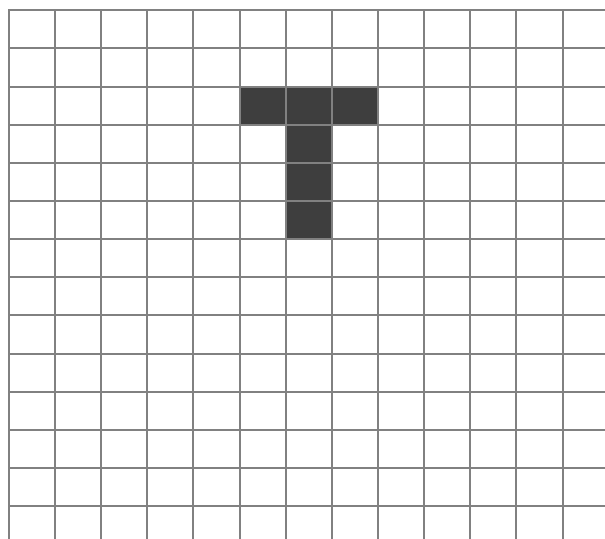
[6]



4.

a. 4 squares to the left Label A [2]

b. 5 squares down Label B [2]



To improve I need to

Name

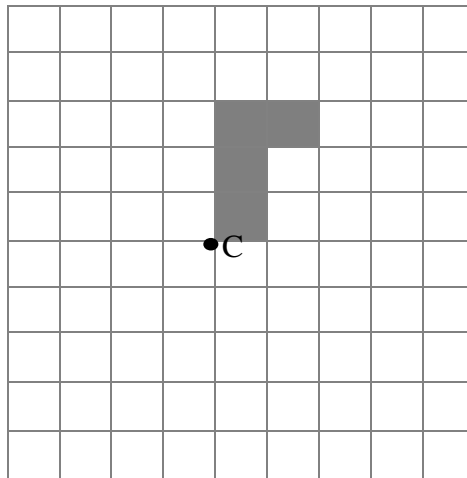
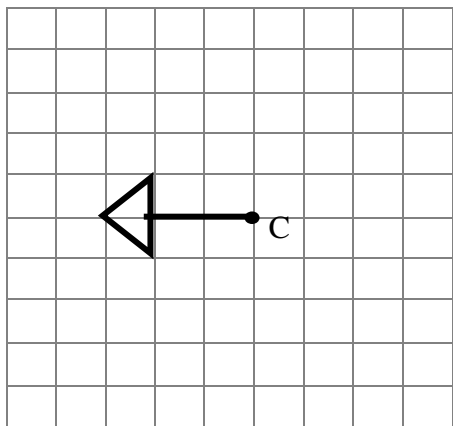
Transformations (2)

$\frac{33}{21} \times 100 = \dots\%$

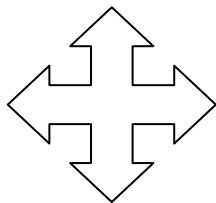
5. Rotate the shapes, Draw the arrows in it's new position

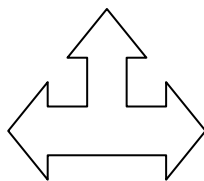
a. **quarter** of a turn **anticlockwise**. [3]

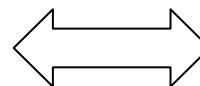
b. **three quarters** of a turn **clockwise**. [3]



6. What is the order of rotational symmetry of these shapes [3]



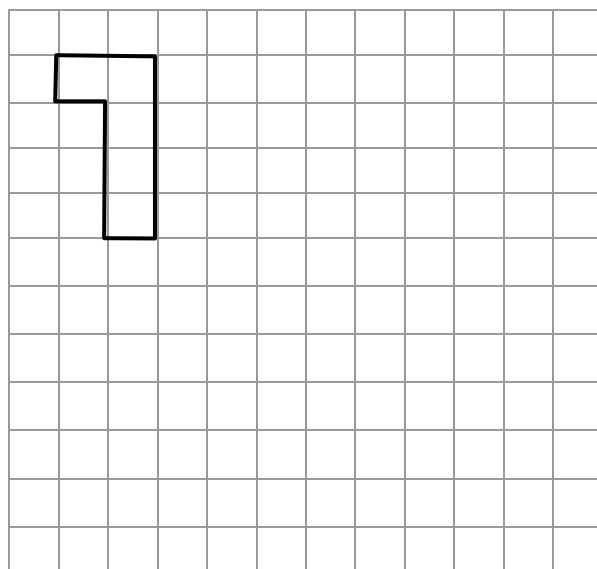
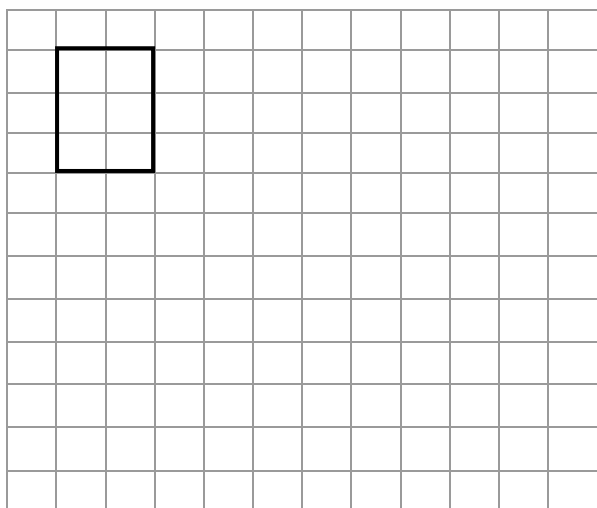




7. Enlarge this shape by a

a. scale factor of 3 [3]

b. scale factor of 2 [3]



To improve I need to