

Year 7 Maths Homework – Summer term

Each week there is to be homework set, due in the day the teacher requests.
The topics for each week are listed below.

Week	Homework number	Topic
1	3.1	Averages ; Mean, Median , Mode and Range
2	3.2	Statistical charts 1
3	3.3	Statistical charts 2
4	3.4	Rounding and estimation 1.
5	3.5	Rounding and estimation 2.
6	3.6	Expressions and formulae
7	3.7	Forming and solving equations 1
8	3.8	Forming and solving equations 2
9	3.9	Study skills – KA prep
10	3.10	Study skills – KA prep
11	3.11	Ratio and proportion 1
12	3.12	Ratio and proportion 2
13	3.13	End of year review

✓ Please note: The date given is the date which the work is being taught in class. The due date may well be the following week and is at the individual teacher's discretion.

✓ Each homework is divided into 3 sections, A B & C.

A is for **all** pupils to attempt.

B is slightly harder and for **most** pupils to attempt.

C is the higher level work for **some** pupils to attempt.

(Your teacher will tell you which parts you should work up to)

✓ SPEND AROUND 30mins! If you are struggling, try using mymaths, if this doesn't help then ask someone who can, preferably your maths teacher (BEFORE IT IS DUE IN!)

✓ Almost every other week is a Mymaths based homework. These are to be done online using your own login and password.

✓ The initial school login is **testwood** and password is **fraction**

✓ Please remember to click 'checkout' at the end so your work is submitted.

✓ If you do not have the internet at home please use the Learning Resources Centre in school (open until 4pm Monday – Thursday, 3.30pm Friday)

Name:

Date:

A. Homework 3.1 – Averages

Week 1 Summer term

1. Find the Mean and mode of these numbers:

5	9	4	6	8	4
---	---	---	---	---	---

2. Find the Mode and range of these numbers:

7	5	8	3	1	8	9	6
---	---	---	---	---	---	---	---

3. Find the Median and Range of:

20	26	82	40	32
----	----	----	----	----

4. Find the mean, mode, median and range for:-

7	2	9	4	10	4
---	---	---	---	----	---

5. Here are the test marks of 6 girls and 4 boys.

Girls: 5 3 10 2 7 3

Boys: 2 5 9 3

(a) Write down the mode of the 10 marks. (1)

(b) Work out the median mark of the **boys**.
..... (2)

(c) Work out the range of the **girls'** marks. (1)

(d) Work out the mean mark of all 10 students.
..... (2)

(e) Comment on the test marks for the 10 students.
.....
.....
.....(2)

Name:

Date:

Homework 3.1 – Averages

Week 1 Summer term

B.

5	9	?
---	---	---

1. The Mean of these numbers is 6: What number is missing?

5	2	?	9
---	---	---	---

2. The Median of these numbers is 6. What number is missing?

3	1	5	4	?
---	---	---	---	---

3. The Range of these numbers is 6. What number is missing?

4. Alison has 6 blank cards. What numbers could she write on them to get the following?

(i) mean 5 and mode 4

(ii) mean 6, mode 6, median 6 and range 2

5.

Hertford Juniors is a basketball team.

At the end of 10 games, their mean score is 35 points per game.

At the end of 11 games, their mean score has gone down to 33 points per game.

How many points did the team score in the 11th game?

Name:

Date:

Homework 3.1 – Averages

Week 1 Summer term

C.

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1. Alison has 6 blank cards. What should she write on them to get the following?
 - (i) mean 5 and mode 4
 - (ii) mean 6, mode 6, median 6 and range 2

On4. With thanks to Tristan, tes

2. Work out the Mean, median, range and Mode from this frequency table which shows the number of pets for 40 students:

Number of pets	1	2	3	4
Frequency	6	11	15	8

3. Hertford Juniors is a basketball team.

At the end of 10 games, their mean score is 35 points per game.

At the end of 11 games, their mean score has gone down to 33 points per game.

How many points did the team score in the 11th game?

Mymaths.co.uk Homework

A. Line graphs , two way tables and Venn diagrams.

<http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=charts/lineGraphsOH&taskID=1198>

B.

- Reading pie charts
- Drawing pie charts

- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=piecharts/piechartsintroOH&taskID=1206>

- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=piecharts/piechartsOH&taskID=1207>

C.

- Scatter graphs
- Grouping data

- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=scattergraphs/scattergraphsOH&taskID=1213>

- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=charts/groupdataOH&taskID=1196>

Name:

Date:

Homework 3.3. – Charts

- A.** 1. Helen carried out a survey to find out the fruit her friends like best.
Here are her results.

apples	oranges	peaches	bananas	pineapples
bananas	bananas	oranges	apples	peaches
bananas	oranges	pineapples	oranges	bananas
peaches	apples	bananas	apples	bananas

- (a) Complete the table for Helen’s results.
 (b) Write down the number of Helen’s friends who like bananas best.
 (c) On the grid, draw a suitable chart or diagram to show Helen’s results.

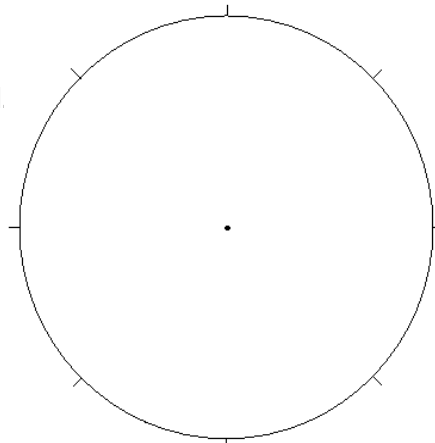
Fruit	Tally	Frequency
apples		
bananas		
oranges		
peaches		
pineapples		



2. Primary schools

The table shows information about which primary school pupils attended

Name of primary school	Ash	Burgate	Grange	Park
Percentage of pupils who went to that school	10%	40%	25%	25%



Complete the pie chart below to show the information in the table.
Label your pie chart with the **names** of the schools.

Name:

Date:

Homework 3.3. – Pie Charts

B. 1 Phillip bought **40** items in town last Saturday. The pie chart shows the type of items bought.



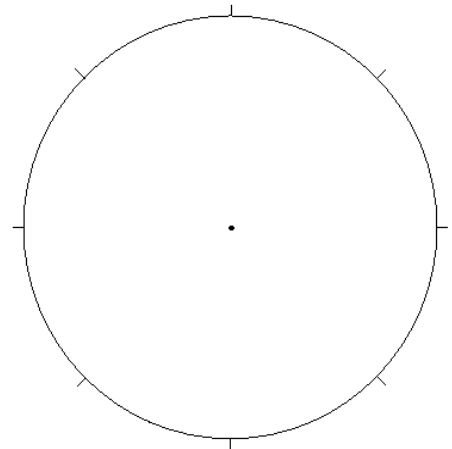
- a). What fraction of items were
 - i). toys, ii). clothes, iii). C.D.s ?
- b). How many of each of these items did he buy ?
 - i). Food, ii). clothes, iii). C.D.s .

2. Primary schools

The table shows information about which primary school

Name of primary school	Ash	Burgate	Grange	Park
Percentage of pupils who went to that school	10%	40%	25%	25%

Complete the pie chart to show the information in the table.
Label your pie chart with the **names** of the schools.



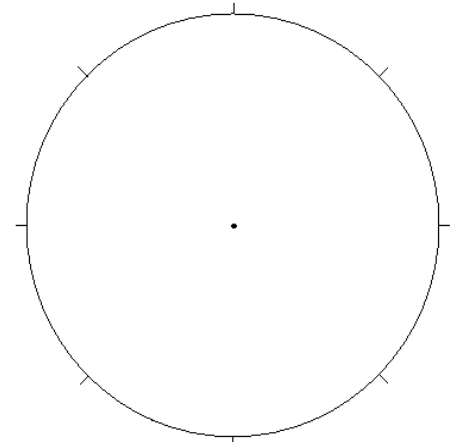
3. Earnings

An employee earned £400 in a week working for a courier company.

The table shows how they spent their money.

Rent	£200
Food	£100
Entertainment	£50
Other	£50

Complete the pie chart below to show how the man spent his money.
 Remember to **label** each sector of the pie chart.



Name:

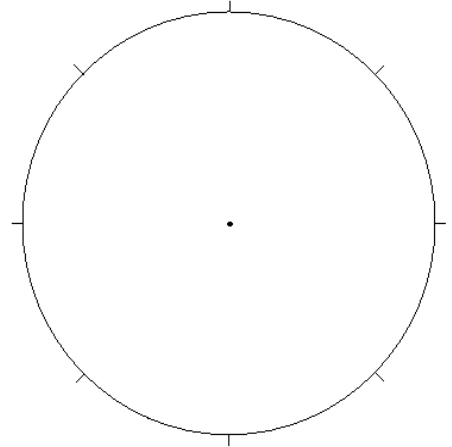
Date:

Homework 3.3 parts B/C– Charts

C

1. Complete the following table of data and draw a pie chart to represent it:

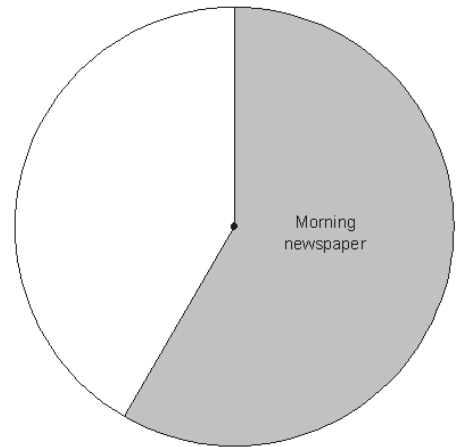
	Dog	Cat	Hamster	Other
Frequency	23	35	11	21
Angle	?	?	?	?



Newspaper

In a survey, 60 people were asked:
Here are the results.

Type of newspaper	Number of people
Morning newspaper	35
Evening newspaper	10
No newspaper	15



What kind of newspaper did you buy today?

Complete the pie chart to show this information

Letters

Writers use some letters of the alphabet more than others.
The pie chart shows how often one writer used vowels
(A, E, I, O or U) in a sample of his writing.

Marie says:

'The pie chart shows the letter used most often is E'.

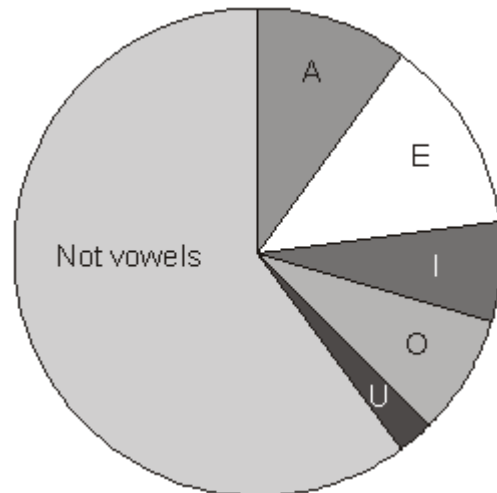
(a) Do you agree with her? Tick (✓) Yes or No.

Yes No

Explain your answer.

(b) The letter E was used **130 times**.

The angle of the sector representing E is **46.8°**
Altogether, how many letters were in the writer's
sample?



Homework 3.4 – Rounding and estimation 1

Week 4 Summer term

Mymaths.co.uk Homework

A. Round to the nearest 10, 100, ...

<http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=accuracy/rounding10OH&taskID=1003>

B. Rounding decimals

<http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=accuracy/roundingDecimalOH&taskID=1004>

C. Significant figures

<http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=accuracy/significantfiguresOH&taskID=1005>

Extension: Estimation

<http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=accuracy/significantfiguresOH&taskID=1005>

Name:

Date:

Homework 3.5 – Rounding and estimation 2



Week 5 Summer term

A. 1. Round the following to the nearest £100

(i) £241.56 = £200 (ii) £198.90 = (iii) £578.55 =

(iv) £631.54 = (v) £812.43 =

2. Round the following to the nearest 10

(i) 26.45 = 30

(ii) 33.95 =

(iii) 41.49 =

(iv) 631.543 =

3. Round the following to 1 decimal place

(i) 2.81 =

(ii) 18.77 =

(iii) 28.75 =

(iv) 774.45 =

Estimation

4. Estimate the following calculations:

(i) $3.99 \times 4.8 = 4.0 \times 5.0 = 20$

(ii) $6.7 \times 4.3 =$

(iii) $2.9 \times 9.5 =$

(iv) $4.6 \times 7.8 =$

(v) $2.29 \times 3.36 =$

Name:

Date:

Homework 3.5 – Rounding and estimation 2



Week 5 Summer term

B. 1. Round the following to 1 decimal place

(i) $2.81 = \dots\dots\dots$

(ii) $18.77 = \dots\dots\dots$

(iii) $28.75 = \dots\dots\dots$

(iv) $774.45 = \dots\dots\dots$

2. Round the following to 2 decimal places

(i) $2.821 = \dots\dots\dots$

(ii) $18.787 = \dots\dots\dots$

(iii) $28.745 = \dots\dots\dots$

(iv) $774.4857 = \dots\dots\dots$

Estimation

3. Estimate the following calculations:

(i) $3.99 \times 4.8 = 4.0 \times 5.0 = 20$

(ii) $6.745 \times 4.397 = \dots\dots\dots$

(iii) $2.931 \times 9.549 = \dots\dots\dots$

(iv) $4.196 \times 7.288 = \dots\dots\dots$

(v) $2.2999 \times 3.19836 = \dots\dots\dots$

Name:

Date:

Homework 3.5 – Rounding and estimation 2



Week 5 Summer term

C. 1. Round the following to 2 decimal place

(i) $2.821 = \dots\dots\dots$

(ii) $18.787 = \dots\dots\dots$

(iii) $28.745 = \dots\dots\dots$

(iv) $774.4857 = \dots\dots\dots$

2. Round the following to 1 significant figure

(i) $2.821 = \dots\dots\dots$

(ii) $18.787 = \dots\dots\dots$

(iii) $28.745 = \dots\dots\dots$

(iv) $774.4857 = \dots\dots\dots$

3. Estimation

Estimate the following calculations:

(i) $3.99 \times 4.8 = 4.0 \times 5.0 = 20$

(ii) $6.745 \times 4.397 = \dots\dots\dots$

(iii) $2.931 \times 9.549 = \dots\dots\dots$

(iv) $4.196 \times 7.288 = \dots\dots\dots$

(v) $2.2999 \times 3.19836 = \dots\dots\dots$

4. Write 37.483 correct to 3 significant figures.

Homework 3.6 – Expressions and formulae **Week 6 Summer term**

Mymaths.co.uk Homework

A. Writing and using formula

<http://app.mymaths.co.uk/202-homework/rules-and-formulae>

B. Number machines

- <http://app.mymaths.co.uk/201-homework/function-machines>

C. Brackets

- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=brackets/singleBracketsOH&taskID=1247>

Double brackets

<http://app.mymaths.co.uk/172-homework/brackets>

Name:

Date:

Week 7 Summer term

Homework 3.7 – Forming and solving equations

A.

1. My age is **12**, write expressions for the ages of the members of my family if:
 - a) My brother is 3 years older than me.
 - b) My sister is 2 years younger than me.
 - c) My mum is double my age.
 - d) My dad is 5 years older than my mum.
 - e) My Gran is 4 times my age.
 - f) My Grand Dad is twice my Dads age.

2. My age is **y**, write expressions for the ages of the members of my family if:
 - a) My brother is 3 years older than me.
 - b) My sister is 2 years younger than me.
 - c) My mum is double my age.
 - d) My dad is 5 years older than my mum.
 - e) My Gran is 4 times my age.
 - f) My Grand Dad is twice my Dads age. If I have **w** sweets, write an expression for the number of sweets my friends have if I:
 - g) I give Tom all my sweets and he has 5 of his own.
 - h) I give Alan half of my sweets.
 - i) I eat four sweets then give Simon the rest.
 - j) I give Lucy a quarter of my sweets, then an extra 1.

3. My favourite song last **t** minutes, how long do I spend listening to music if:
 - a) I listen to the song once and for an hour all day (and including when I'm asleep).
 - b) I listen to half the song 8 times.
 - c) I listen to the intro (a quarter of the song) 5 times.
 - d) I listen to my song, then the next one which is exactly twice as long.
 - e) I listen to my song, then the next one which is exactly twice as long, and do this 5 times throughout the day.

Name:

Date:

Week 7 Summer term

Homework 3.7 – Forming and solving equations

B

1. My age is y , write expressions for the ages of the members of my family if:
 - a) My brother is 3 years older than me.
 - b) My sister is 2 years younger than me.
 - c) My mum is double my age.
 - d) My dad is 5 years older than my mum.
 - e) My Gran is 4 times my age.
 - f) My Grand Dad is twice my Dads age.
2. If I have w sweets, write an expression for the number of sweets my friends have if I:
 - a) I give Tom all my sweets and he has 5 of his own.
 - b) I give Alan half of my sweets.
 - c) I eat four sweets then give Simon the rest.
3. I give Lucy a quarter of my sweets, then My favourite song last t minutes, how long do I spend listening to music if:
 - a) I listen to the song once and for an hour all day (and including when I'm asleep).
 - b) I listen to half the song 8 times.
 - c) I listen to the intro (a quarter of the song) 5 times.
 - d) I listen to my song, then the next one which is exactly twice as long.
 - e) I listen to my song, then the next one which is exactly twice as long, and do this 5 times throughout the day.
 - f) an extra 1.
4. If a rectangle has lengths x and y , write an expression for:
 - a) The area of the rectangle
.....
a) The area covered by 6 rectangles.
.....
 - a) The perimeter of the rectangle
.....

Name:

Date:

Week 7 Summer term

Homework 3.7 – Forming and solving equations

Important: Show all the steps in your working

C. 1. If I have w sweets, write an expression for the number of sweets my friends have if I:

a) I give Tom all my sweets and he has 5 of his own.

b) I give Alan half of my sweets.

c) I eat four sweets then give Simon the rest. Credit: Ben Cooper (tes)

2. Write the following as equations and solve to find the value of the letter:

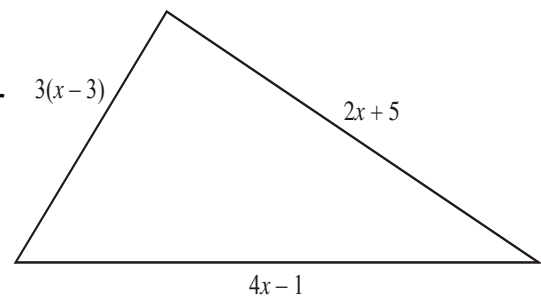
(a) I think of a number, multiply by 6 and add on 4. The answer is 34.
What was the original number?
.....

(b) I think of a number. I multiply it by 6 and add 3. If my answer is 75,
calculate the number I started with.
.....

(c) Diagram **NOT** accurately drawn

The lengths, in cm, of the sides of the triangle are $3(x - 3)$, $4x - 1$ and $2x + 5$.

(i) Write down, in terms of x , an expression for the perimeter of the triangle.
.....



(ii) If the perimeter of the triangle is 49 cm, work out the value of x .
.....

3. Extension: Use next page for working out.

Mrs Root gave her maths class this problem:

“When 8 is added to a certain number, the result is 3 times as large as when 2 is subtracted from the number.”

She asked the class to find the original number. What was the correct number? Show full working out.

A. Writing expressions and using formula

<http://app.mymaths.co.uk/1733-homework/equations-1-one-step>

B. Writing and solving equations 1

- <http://app.mymaths.co.uk/187-homework/equations-2-multi-step>

C. Writing and solving equations 2.

- <http://app.mymaths.co.uk/188-homework/equations-3-both-sides>

Mymaths.co.uk Homework

- A.
- Angles
 - Sequences
- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=charts/lineGraphsOH&taskID=1198>
 - <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=fourbooster/ow10NumberPatterns&taskID=70>
- B.
- Handling data
 - Angles and lines
- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=boosters/ow13HandlingData&taskID=13>
 - <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=boosters/ow8Angles&taskID=8>
- C.
- Arithmetic
 - Sequences and formulae
- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=gcseFoundation/ow1mental&taskID=201>
 - <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=gcseFoundation/ow8Seqandform&taskID=208>

Mymaths.co.uk Homework

- A.
- **Angles**
 - **Sequences**
- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=charts/lineGraphsOH&taskID=1198>
 - <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=fourbooster/ow10NumberPatterns&taskID=70>
- B.
- **Handling data**
 - **Angles and lines**
- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=boosters/ow13HandlingData&taskID=13>
 - <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=boosters/ow8Angles&taskID=8>
- C.
- **Arithmetic**
 - **Sequences and formulae**
- <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=gcseFoundation/ow1mental&taskID=201>
 - <http://www.mymaths.co.uk/tasks/library/loadTask.asp?title=gcseFoundation/ow8Seqandform&taskID=208>

Name: **Date:**

Homework 3.11 – Ratio and proportion 1

Week 11 Summer term

- A.** 1. Simplify the following ratios:
(a) 2:4 (b) 10:15 (c) 20:10
(d) 8:12:20 (e) 20mm : 5cm

2. Mrs Perry shares out 35 biscuits between Gemma and Zak in the ratio 1 : 6
How many biscuits does each child get?
Gemma gets biscuits and Zak gets biscuits

- B.** 1. Simplify the following ratios:
(a) 6:9 (b) 10:25 (c) 20:35
(d) 18:12:24 (e) 20min : 5hours
2. Share these amounts into the given ratios:

- (a) £20 in the ratio 3:2 £ : £
(b) £17.50 in the ratio 3:4 £ : £

3. 3 metres of ribbon cost £1.26. Work out the cost of 5 metres of the same ribbon.

- C.** 1. Amy and Ben were given a total of £240. They shared the money in the ratio 7 : 5. Work out how much money each received.
2. This is a recipe for making Spaghetti Carbonara for 4 people. Bill is making Spaghetti Carbonara for 10 people. Work out the amount of each ingredient he needs.

Spaghetti Carbonara: Ingredients for 4 people

400 g of spaghetti
120 g of bacon
2 tablespoons of oil
4 eggs
50 g of cheese

Homework 3.12 – Ratio and proportion 2 . **Week 12 Summer term**

Mymaths.co.uk Homework

A. **Ratio**

<http://app.mymaths.co.uk/158-homework/ratio-introduction>

B. **Ratio - dividing**

<http://app.mymaths.co.uk/159-homework/ratio-dividing-1>

C. **Ratio – dividing 2**

<http://app.mymaths.co.uk/160-homework/ratio-dividing-2>

Homework 3.13 – Term review

A. B. C.

- Term finishes on Wednesday.
- Review the year
- Use mymaths to revisit areas covered this term:
 1. Averages.
 2. Rounding and estimation.
 3. +, -, x and \div with integers and decimals.
 4. Expressions – simplifying.
 5. Expressions – factorising.
 6. Formulae – substitution and rearranging.
 7. Equations.
 8. Ratio and proportion.
 9. Graphs.
 10. Problem solving.
 11. Statistical charts.