



Aberdare Community School
Mathematics Department

WJEC GCSE
Higher – Non Calculator
Number

Number - end of paper questions

Name:

Set:

Date:

Teacher:

13. (a) Simplify $(\sqrt{8})^2$.

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[1]

(b) Express $\frac{2}{9}$ as a recurring decimal.

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[1]

(c) Evaluate

(i) 2^{-2} ,

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.....
(ii) 7^0 .

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[2]

9. Showing all your working **ESTIMATE** the value of:

$$\frac{202 \times 60.3}{0.191}$$

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[3]

17. (a) Simplify

(i) 85^0 ,

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(ii) $(\sqrt{7})^2$.

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[2]

(b) Express $\frac{5}{11}$ as a recurring decimal.

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[1]

(c) Evaluate 3^{-3} . Express your answer as a fraction.

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[1]

(d) Evaluate $3\frac{2}{5} \times 1\frac{2}{3}$.

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[2]

(e) Find the lowest common multiple (LCM) and the highest common factor (HCF) of 12 and 18.

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LCM

HCF

[2]

8. Showing **all** your working, estimate the value of: $\frac{601.9 \times 19.94}{0.305}$

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[3]

11. (a) Evaluate each of the following.

(i) 4^{-2}

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(ii) 6^0

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[2]

(b) Simplify $(\sqrt{7})^2$

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[1]

(f) Which of the fractions $\frac{3}{4}$, $\frac{2}{5}$, $\frac{7}{11}$ and $\frac{3}{20}$ is a recurring decimal?

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[1]

(g) Evaluate $1\frac{1}{3} \times 2\frac{3}{4}$ giving your answer in its simplest form.

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[3]

8. The sum of two numbers is 13.
The product of the same two numbers is 36.

What is the difference between the squares of these numbers?

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[3]

11. (a) Salad dressing is made from 3 parts honey, 2 parts white vinegar and 1 part mustard, with no other ingredients. Write down the ingredients required to make 330 ml of salad dressing.

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Honey ml

White vinegar ml

Mustard ml

[3]

9.

(c) Evaluate $3\frac{1}{3} \times 1\frac{1}{5}$.

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[2]

(d) Simplify $(\sqrt{19})^2$.

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[1]

(e) Evaluate 3^{-4} .

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[1]



8. (a) Share £600 in the ratio 3 : 2.

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[2]

12. (a) Simplify $(\sqrt{8})^2$.

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[1]

(b) Express $\frac{2}{9}$ as a recurring decimal.

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.....
[1]

(c) Evaluate

(i) 2^{-2} ,

.....
.....
(ii) 7^0 .

.....
[2]

10. (a) Evaluate **each** of the following.

(i) 7^{-2}

(ii) 13^0

[2]

(b) Simplify $(\sqrt{15})^2$.

[1]

(e) Which of the fractions $\frac{1}{8}$, $\frac{2}{5}$, $\frac{2}{3}$ and $\frac{7}{20}$ is a recurring decimal?

[1]

(f) Evaluate $2\frac{2}{3} \times 2\frac{3}{4}$ giving your answer in its simplest form.

[3]

9. (a) Evaluate $\sqrt{5} \times \sqrt{5}$.

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[1]

(d) Evaluate $4^{-2} \times 8^{\frac{1}{3}} \times 2^4$.

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[3]

8. (a) Estimate the value of $\frac{59 \times 21}{97}$.

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[2]

- (b) Given that $34 \times 670 = 22\,780$, find the value of $\frac{22\,780}{67}$.

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[1]

- (c) Write down the value of a half of $\frac{5}{8}$.

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[1]

(e) Find the value of the reciprocal of 0.9.

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[2]

10. A newspaper reporter finds the information below on a page on the Internet.
The table gives information about 5 different ships.

Date	Name	Owned by	Weight (tons)	Decks	People	Length	Width	Speed
1912	Titanic	White Star Line	46 328	9	3000	952.5	92	21
1934	Queen Mary	Cunard	81 237	12	3131	1019	–	28.5
1962	Carrier Enterprise	US Navy	89 600	–	5830	1101	133	30
2002	Brilliance of the Seas	Royal Caribbean	90 090	13	2501	962	105.6	25
2004	Queen Mary 2	Cunard	150 000	23	3873	1132	147.5	30

A newspaper report is to be written using some of the above data.

The reporter decides to include a table in his report, in which he expresses for each ship:

- the weight, in tons, in standard form correct to 2 significant figures;
- the length, in feet, correct to 1 significant figure.

Complete the reporter's table.

Date	Name	Owned by	Weight (tons)	Length (feet)
1912	Titanic	White Star Line		
1934	Queen Mary	Cunard		
1962	Carrier Enterprise	US Navy		
2002	Brilliance of the Seas	Royal Caribbean		
2004	Queen Mary 2	Cunard		

[4]

The reporter then writes

"All these ships were the same length. Isn't that amazing!

The Queen Mary 2 weighs about three times the Titanic. Another amazing fact!"

By looking at the **reporter's table** together with his amazing fact statements, do you think the report is fair? Explain your reasons.

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[2]

(d) Evaluate $2\frac{1}{3} \times 3\frac{3}{7}$. Simplify your answer.

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[2]

[2]

[3]

8.

(b) Two thirds of the 24.6 million households in the UK in 2004 were family households. How many households in the UK in 2004 were family households? Express your answer correct to two significant figures.

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[3]



9.

(b) Estimate the value of $\frac{19.843^2 \times 0.249}{0.0099}$.

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[3]



8. (a) Estimate the value of $\frac{48 \times 21}{199}$.

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[2]

- (b) Given that $46 \times 345 = 15870$, find the value of $\frac{1587}{460}$.

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[1]

- (c) Write down the value of a half of $\frac{3}{8}$. Give your answer as a fraction.

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[1]

12. (a) Evaluate 19^0 .

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[1]



8.

(c) Use these clues to find the missing number.

[3]

- This number is the product of 3 prime numbers
- 10 is a factor of this number
- 210 is a multiple of this number
- This number is greater than 30

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The missing number is

13.

(b) Evaluate 8^0 .

[1]

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8.

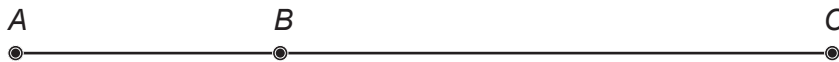


Diagram not drawn to scale

ABC is a straight line, $AB:BC$ is $3:8$ and the length of $BC = 36$ cm.
Calculate the length of AC .

[3]

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(c) Express 0.025 as a fraction in its simplest terms.

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4363
020011