Numeracy Non Calculator

Revision Pack

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44 minutes

46 marks

To use alongside mymaths.co.uk and livemaths.co.uk to revise for your GCSE exam

Q1. There are 600 counters in a bag.

90 of the counters are yellow.

(a) Work out 90 as a fraction of 600.
Give your answer in its simplest form.

.....

(2)

180 of the 600 counters in the bag are red.

(b) Work out 180 as a percentage of 600.

..... %

(2)

The rest of the counters in the bag are blue or green.
There are twice as many blue counters as green counters.

(c) Work out the number of green counters in the bag.

.....

(2)
(Total 6 marks)

Q2. Use the information that

$322 \times 48 = 15\ 456$

to find the value of

(a) 3.22×4.8

.....

(1)

(b) 0.322×0.48

.....

(1)

(c) $15\ 456 \div 4.8$

.....

(1)

(Total 3 marks)

Q3. The length of a line is 63 centimetres, correct to the nearest centimetre.

(a) Write down the **least** possible length of the line.

..... centimetres

(1)

(b) Write down the **greatest** possible length of the line.

..... centimetres

(1)

(Total 2 marks)

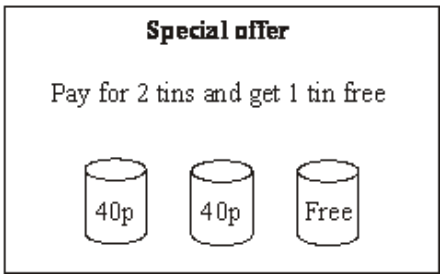
Q4. Work out an estimate for the value of

$$\frac{6.8 \times 191}{0.051}$$

.....

(Total 3 marks)

Q5. A tin of cat food costs 40p.
A shop has a special offer on the cat food.



Julie wants 12 tins of cat food.

(a) Work out how much she pays.

£ .....

(3)

9 of the 12 tins are tuna.

(b) Write 9 out of 12 as a percentage.

..... %

(2)

The normal price of a cat basket is £20
In a sale, the price of the cat basket is reduced by 15%.

(c) Work out the sale price of the cat basket.

£ .....

(3)
(Total 8 marks)

Q6. (a) Express 84 as a product of its prime factors.

.....

(3)

(b) Find the Highest Common Factor (HCF) of 84 and 35

.....

(2)
(Total 5 marks)

Q7.

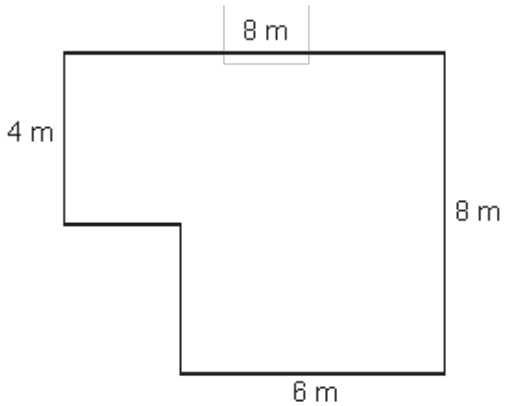


Diagram **NOT** accurately drawn

The diagram is a plan of the floor of Nikola's room.
All the angles are right angles.
Nikola is going to lay flooring to cover all the floor.

She can choose either carpet tiles or wood strips.

Carpet tiles come in packs of 32 and are square. They measure 50 cm by 50 cm.
Wood strips come in packs of 10 and are rectangular. They measure 2 m by 25 cm.

She only wants to use one type of flooring and buy as few packs as she can.
Which type of flooring should she choose?

.....

(Total 6 marks)

Q8. Kaysha has a part-time job.
She is paid £5.40 for each hour she works.
Last week Kaysha worked for 24 hours.

Work out Kaysha's total pay for last week.

£ .....

(Total 3 marks)

Q9. (a) Work out $\frac{1}{3} + \frac{1}{12}$

.....

(2)

(b) Work out $\frac{3}{4} \times \frac{1}{5}$

.....

(1)

(Total 3 marks)

Q10. Using the information that

$$4.8 \times 34 = 163.2$$

write down the value of

(a) 48×34

.....

(1)

(b) 4.8×3.4

.....

(1)

(c) $163.2 \div 48$

.....

(1)

(Total 3 marks)

Q11. Here are the ingredients needed to make 8 pancakes.

Pancakes

Ingredients to make **8** pancakes

300 m/ milk
1 egg
120 g flour
5 g butter

Jacob makes 24 pancakes.

(a) Work out how much milk he needs.

..... ml

(2)

Cathie makes 12 pancakes.

(b) Work out how much flour she needs.

..... g

(2)

(Total 4 marks)

M1.

	Working	Answer	Mark	Additional Guidance
(a)	$\frac{9}{600}$	$\frac{3}{20}$	2	**M1** $\frac{90}{600}$ **A1** $\frac{3}{20}$ cao [SC: **B1** for 0.15 or 15% if **M0** scored]
(b)	$\frac{180}{600} \times 100$ **OR** $\frac{180}{600} = \frac{30}{100}$	30	*2*	**M1** $\frac{180}{600} \times 100$ **A1** cao **OR** **M1** $\frac{180}{600} = \frac{30}{100}$ or attempt to cancel to 100 **A1** cao
(c)	600 – (90 +180) = 330 blue or green 330 ÷ 3	110	*2*	**M1** [“600 – (90 + 180)“] ÷ 3 **A1** cao [SC: **B1** for an answer of 140 or 170 if **M0** scored]
				Total for Question: 6 marks

M2.

	Answer	Mark	Additional Guidance
(a)	15.456	1	**B1** cao
(b)	0.15456	1	**B1** cao
(c)	3220	1	**B1** cao
			Total for Question: 3 marks

M3.

	Answer	Mark	Additional Guidance
(a)	62.5	1	**B1** cao
(b)	63.5	1	**B1** for 63.5 (accept 63,49 or 63.49.. or any evidence that the 9 is recurring or 63.499 or better)
			Total for Question: 2 marks

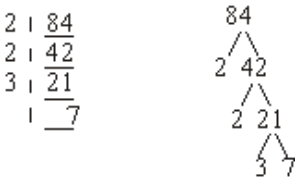
M4.

Working	Answer	Mark	Additional Guidance
$\frac{7 \times 200}{0.05} = \frac{1400}{0.05}$	28000	3	**B1** for any two of 7, 200 or 0.05 **M1** for correct processing of at least two of 7, 200 or 190 and 0.05 or 0.1 **A1** 26600 – 28000
			Total for Question: 3 marks

M5.

	Working	Answer	Mark	Additional Guidance
(a)	12 ÷ 3 × 2 (= 8) 8 × 40 Alternative: 3 tins = 40 × 2 = 80 12 tins = 80 × 4	3.20	3	**M2** for 40 × 12 ÷ 3 × 2 or better (inc. adding 8 lots of 40p) (**M1** for using 2 of the 3 operations or 8 seen) **A1** cao **OR** **M1** for 3 tins = 40 × 2 (=80) **M1** for "80" × 4 **A1** cao [SC: if M0 scored: **B2** for digits 32, or **B1** for 480 or 4.80]
(b)	$\frac{9}{12}$ × 100	75	2	**M1** for $\frac{9}{12}$ oe **A1** cao
(c)	$\frac{15}{100}$ × 20 = 3 **OR** 10% = 20 ÷ 10 = 2 5% = 2 ÷ 2 = 1 15% = 2 + 1 = 3 20 – 3 Alternative: 20 × 0.85	17	3	**M1** for $\frac{15}{100}$ × 20 oe or a correct method to work out 10% and 5% of 20, or 2 and 1 seen **A1** for 3 cao **A1** ft for 20 – "3" dependent on **M1** scored **Alternative:** **B1** cao for 85 or 0.85 seen **M1** for $\frac{"100-15"}{100}$ × 20 or "1 – 0.15" × 20 **A1 ft** for a correct solution of $\frac{"100-15"}{100}$ × 20 or "1 – 0.15" × 20 or 17 dependent on **M1** scored SC (for both alternatives) **B2** for £3
				Total for Question: 8 marks

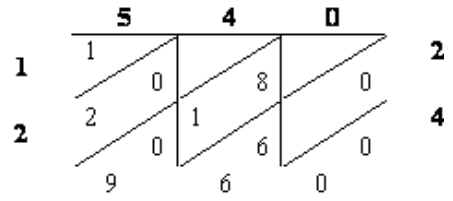
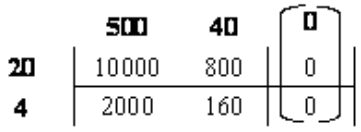
M6.

	Working	Answer	Mark	Additional Guidance
(a)		2 × 2 × 3 × 7	3	**M2** for a full systematic method of at least 3 divisions by prime numbers oe factor trees, condone one calculation error. (**M1** for 84 written as either 2 × 42 or 3 × 28 or 7 × 12 oe or equivalent division or a full process with 2 calculation errors) **A1** for 2 × 2 × 3 × 7 (accept 2^2 × 3 × 7 but not 2, 2, 3, 7) [Note: 1 × 2 × 2 × 3 × 7 gets **M2A0**]
(b)		7	2	**M1** for listing factors of 35 and 84 (at least 3 correct for each, condoning one error. This could be in factor trees or factor pairs, etc) **A1** cao
				Total for Question: 5 marks

M7.

	Working	Answer	Mark	Additional Guidance
FE	Area of the room = 4 × 8 + 4 × 6 = 56 Area of a tile = 0.5 × 0.5 = 0.25 Number of tiles = 56 ÷ 0.25 = 224 Cost = 4 × 224 **OR** No of tiles around room = 2 × lengths of room = 8, 16, 16, 12 Total number of tiles = 8 × 16 + 8 × 12 = 224 Cost = 4 × 224	£ 896	6	**M1** for full method for finding the area of the room **A1** at least one area correct **B1** for area of tile = 0.25m^2 or 2500 cm^2 or 4 tiles = 1m^2 **M1** for area of room ÷ area of a tile **M1** for 4 × number of tiles **A1** cao **OR** **M1** for doubling each length to show number of tiles for each side **B1** for 8, 16, 16 and 12 **M1** for a full method of finding the number of tiles (12 × 16 + 8 × 4) **A1** for at least one 'section' correct **M1** for 4 × '224' **A1** cao
				Total for Question: 6 marks

M8.

Working	Answer	Mark	Additional Guidance
540 24 2160 10800 12960   10000 + 2000 + 800 160 = 12960 **5** **0.4** 100 8 **20** 20 1.6 **4** 100 + 20 + 8 + 1.6 = 129.6	129.6(0)	3	**M1** for a complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. **OR** **M1** for a complete grid. Condone 1 multiplication error, addition not necessary. **OR** **M1** for sight of a complete partitioning method, condone 1 multiplication error. Final addition not necessary. **A2** for 129.6(0)(p) cao (**A1** (dep on **M1**) for correct addition placement of decimal point after final or for digits 1296(0) seen) SC: **B1** for addition of 24 lots of 5.4(0) or 540
			Total for Question: 3 marks

M9.

	Working	Answer	Mark	Additional Guidance
(a)	$\frac{4}{12} + \frac{1}{12}$	$\frac{5}{12}$	2	**M1** for $\frac{4}{12}$ or for attempting to use a suitable common denominator other than 12, at least one of the two fractions correct. **A1** for $\frac{5}{12}$ oe **OR** Attempt to use decimals, must use at least 2 d.p. **M1** for 0.33(33...) + 0.08(33...) **A1** for 0.416 recurring
(b)	$\frac{3 \times 1}{4 \times 5}$	$\frac{3}{20}$	1	**B1** for $\frac{3}{20}$ oe
				Total for Question: 3 marks

M10.

	Working	Answer	Mark	Additional Guidance
(a)		1632	1	**B1** for 1632 or 1632.0
(b)		16.32	1	**B1** for 16.32 cao
(c)		3.4	1	**B1** for 3.4 cao
				Total for Question: 3 marks

M11.

	Working	Answer	Mark	Additional Guidance
(a)	$\frac{24}{8} \times 300$	900	2	**M1** for $\frac{24}{8}$ oe or $\frac{300}{8}$ oe or 300 + 300 + 300 or 37.5 seen **A1** for 900 (SC: **B1** for sight of two of 3, 360 or 15)
(b)	$\frac{12}{8} \times 120$	180	2	**M1** for use of $\frac{12}{8}$ or 1.5 oe, eg 120 + '$\frac{120}{2}$' or '120 ÷ 8' × 12 **A1** for 180 (SC: **B1** for sight of two of 450, 1.5 or 7.5)
				Total for Question: 4 marks