GCSE Mathematics

Unit 1: Calculator *NOT* Allowed

tinyurl.com/LARevP3a

Intermediate Tier

County Revision Paper 3a

Week beginning

55 Minutes

School: _____

Student Name: _____

Question	Maximum Mark	Mark Awarded
1	6	
3	6	
5	4	
7	5	
9	3	
11	6	
13	4	
15	5	
17	4	

1. Calculate each of the following.

(a) 0.3 x 0.6 [1]

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(b) 17.4 – 6.89 [1]

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(c) $5^3 + 3^2$ [2]

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(d) $\frac{7}{8} - \frac{3}{4}$ [2]

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3. Arwyn can buy plants on small trays each of which holds 4 plants and on large trays each of which holds 12 plants.

He buys x small trays.

(a) Write down, in terms of x, the total number of plants on these small trays.

.....

[1]

(b) He buys 6 less of the large trays than the small trays. Write down, in terms of x, how many large trays he has bought.

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[1]

(c) Write down, in terms of x, the total number of plants on these large trays.

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[1]

(d) Write down, in terms of x, the total number of plants he has bought altogether.
You must simplify your answer as far as possible.

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[3]

5. A red bag contains five balls numbered as shown.

A blue bag contains six balls numbered as shown.

In a game a player chooses a ball from the red bag and then a ball from the blue bag. The numbers on the two balls are added together to obtain a total score.

Blue bag \ Red bag	1	2	4	6	7
8	9	.....	.....	.....	.....
7	8	.....	.....	.....	.....
6	7	.....	.....	.....	.....
4	5	.....	.....	.....	.....
3	4	5	7	9	10
1	2	3	5	7	8

A player wins a prize by getting a total score of 5 or less.

(i) Tim plays the game once.
What is the probability that he wins a prize?

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[2]

(ii) 150 people each play the game once.
Approximately how many would you expect to win a prize?

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[2]

7. Solve each of the following equations.

(a) $\frac{p}{3} = -6$ [1]

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(b) $\frac{56}{q} = 8$ [1]

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(c) $7r + 6 = 12 - 3r$ [3]

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9. Seven **single digit numbers** have a median of 6 and a range of 8.
The mode of the seven numbers is 3.
Find the seven numbers.
Write your single digit numbers in order in the boxes.

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[3]

11. The table shows some of the values of $y = 2x^2 - 5x - 8$ for values of x from -2 to 4.

(a) Complete the table by finding the value of y for $x = 3$.

x	-2	-1	0	1	2	3	4
$y = 2x^2 - 5x - 8$	10	-1	-8	-11	-10		4

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[1]

(b) On the graph paper opposite, draw the graph of $y = 2x^2 - 5x - 8$ for values of x between -2 and 4.

[2]

(c) Draw the line $y = 3$ on your graph paper and write down the x-values of the points of intersection of your line with $y = 2x^2 - 5x - 8$.

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[2]

(d) Write down and simplify the equation in x whose solutions you found in *(c)*.

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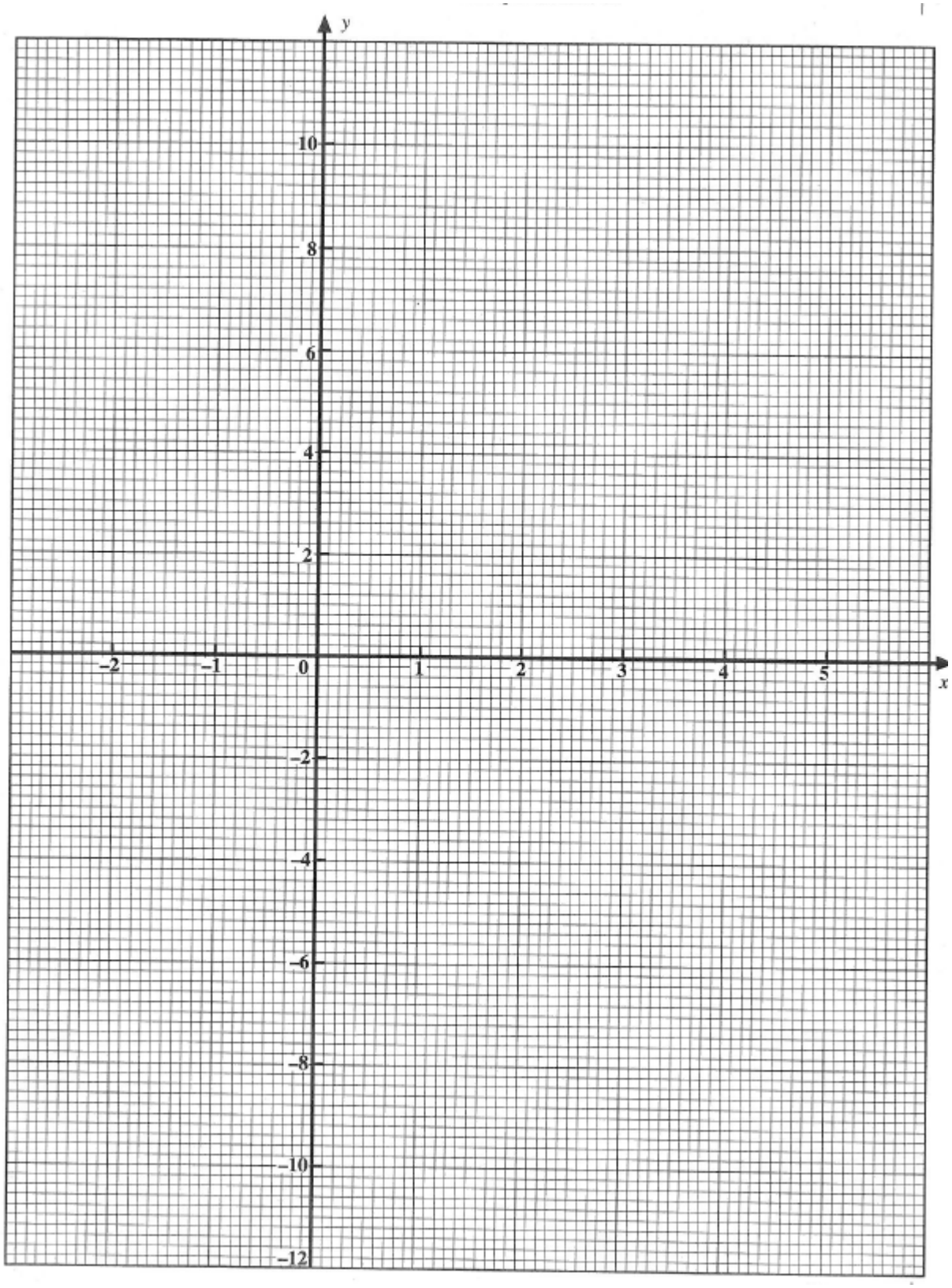
[1]


y
10
8
6
4
2
−2
−1
0
1
2
3
4
5
x
−2
−4
−6
−8
−10
−12

13. (a) Make m the subject of the formula $y = 3m - 5$ [2]

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(b) Factorise $4x^2 + 6x$ [2]

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15.

Simon and Syra are on holiday in Devon.
They buy some holiday souvenirs for their friends.
Simon pays £2.05 for 2 key rings and 3 pencils.
Syra pays £3.20 for 3 key rings and 5 pencils.
All the key rings are the same price and all the pencils are the same price.

Find the individual prices of a key ring and a pencil.
You must use an algebraic method. [5]

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Price of a key ring = ...

Price of a pencil = ...

17.

Anwar went shopping to buy a book and some CDs.

He had exactly £60 with him.
In one shop, he bought a book costing £15 and some CDs.
Each CD cost £7.
When he paid for these items, he was given some change.

Anwar bought n CDs.
Write down an inequality which is satisfied by n.

What is the greatest possible number of CDs Anwar could have bought? [4]