**Calculator Overlap questions June 18 Paper 2**

**20/1** (a) Simplify *m*3 × *m*4

...................................................... **(1)**

(b) Simplify (5*np*3)3

...................................................... **(2)**

(c) Simplify $\frac{32q^{9}r^{4}}{4q^{3}r}$

...................................................... **(2)**

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**21/2** (a) Find the lowest common multiple (LCM) of 40 and 56

...................................................... **(2)**

*A* = 23 × 3 × 5 *B* = 22 × 3 × 52

(b) Write down the highest common factor (HCF) of *A* and *B*.

...................................................... **(1)**

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**22/3** The line **L** is shown on the grid.



Find an equation for **L**.

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**(Total for Question 22/3 is 3 marks)**

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**23/4** Raya buys a van for £8500 plus VAT at 20%

Raya pays a deposit for the van.

She then pays the rest of the cost in 12 equal payments of £531.25 each month.

Find the ratio of the deposit Raya pays to the total of the 12 equal payments.

Give your answer in its simplest form.

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**(Total for Question 23/4 is 5 marks)**

**24/5** (a) Complete the table of values for *y* = *x*2 – *x* – 6

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 **(2)**

(b) On the grid, draw the graph of *y* = *x*2 – *x* – 6 for values of *x* from –3 to 3

 **(2)**

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(c) Use your graph to find estimates of the solutions to the equation *x*2 – *x* – 6 = –2

................................................................................. **(2)**

**25/6** A force of 70 newtons acts on an area of 20 cm2

The force is increased by 10 newtons.

The area is increased by 10 cm2

Helen says, “The pressure decreases by less than 20%”

Is Helen correct?

You must show how you get your answer.

**(3)**