Edexcel GCSE
Mathematics (Linear) – 1MA0

ESTIMATION

Materials required for examination	**Items included with question papers**
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser. Tracing paper may be used.	Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.
Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.

1. Work out an estimate for the value of

$$5.1 \times 98$$

$$5 \times 100 = 500$$

$$500$$

(2 marks)

2. Estimate the value of

$$\frac{68 \times 401}{198}$$

$$\frac{70 \times 400}{200} = 70 \times 2 = 140$$

$$140$$

(2 marks)

3. Work out an estimate for the value of

$$\frac{637}{3.2 \times 9.8}$$

$$\frac{600}{3 \times 10} = \frac{600}{30} = \frac{60}{3} = 20$$

$$20$$

(2 marks)

4. Which is the best estimate for the value of

$$\frac{37.9 \times 50.2}{2.1 + 2.98}$$

$$\frac{40 \times 50}{2 + 3} = \frac{40 \times 50}{5} = 40 \times 10 = 400$$

400

(3 marks)

5. Which is the best estimate for the value of

$$\frac{38.3 \times 51.7}{2.1}$$

$$\frac{40 \times 50}{2} = 20 \times 50 = 1000$$

1000

(3 marks)

6. Work out an estimate for

$$\frac{10.1 \times 29.7}{5.9 - 3.1}$$

$$\frac{10 \times 30}{6 - 3} = \frac{300}{3} = 100$$

100

(3 marks)

7. Estimate the value of

$$\frac{813 \times 19.8}{97.6}$$

$$\frac{800 \times 20}{100} = 8 \times 20 = 160$$

160

(3 marks)

8. Work out an estimate for the value of

$$\frac{5.79 \times 312}{0.523}$$

$$\frac{6 \times 300}{0.5} = \frac{1800}{0.5} = 3600$$

................3600................

(4 marks)

9. Which is the best estimate for the value of

$$\frac{410 \times 6.9}{0.23}$$

$$\frac{400 \times 7}{0.2} = \frac{2800}{0.2} = 2800 \times 5 = 14,000$$

................14,000................

(4 marks)

10. Work out an estimate for

$$\frac{29.8 \times 4.1}{0.21}$$

$$\frac{30 \times 4}{0.2} = \frac{120}{0.2} = 120 \times 5 = 600$$

........600........

(4 marks)

11. Work out an estimate for

$$\frac{302 \times 9.96}{0.51}$$

$$\frac{300 \times 10}{0.5} = \frac{3000}{0.5} = 3000 \times 2 = 6000$$

........6000........

(4 marks)

12. Work out an estimate for

$$\frac{412 \times 5.904}{0.195}$$

$$\frac{400 \times 6}{0.2} = \frac{2400}{0.2} = 2400 \times 5 = 12,000$$

12,000

(4 marks)

13. Estimate the value of

$$\frac{21 \times 3.86}{0.207}$$

$$\frac{20 \times 4}{0.2} = \frac{80}{0.2} = 80 \times 5 = 400$$

400

(4 marks)

14. Work out an estimate for the value of

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

$$\frac{7 \times 200}{0.05} = \frac{1400}{0.05} = 1400 \times 20 = 28,000$$

.... 28,000 ....

(4 marks)

15. (a)   Write down an estimate for

$\sqrt{49} = 7$

$\sqrt{64} = 8$

$\sqrt{60}$

.... 7.7 ....

(1)

(b)   Write down an estimate for

$\sqrt{81} = 9$

$\sqrt{100} = 10$

$\sqrt{90}$

.... 9.5 ....

(1)

(c)   Write down an estimate for

$\sqrt{121} = 11$

$\sqrt{144} = 12$

$\sqrt{130}$

.... 11.4 ....

(1)

(d)   Write down an estimate for

$\sqrt{144} = 12$

$\sqrt{169} = 13$

$\sqrt{150}$

.... 12.2 ....

(1)

(4 marks)