Bishops Online Tutoring

Education Consultancy

Edexcel GCSE Mathematics

ESTIMATION

Materials Required:

- Pen
- HB Pencil
- Ruler (in centimetres and millimetres)
- Protractor
- Compass

Instructions:

- Use a black ink pen to answer all questions
- Fill your name in the section below
- Answer the questions in the spaces provided
- Show your working out for all answers

Information:

- The marks allocated for each question are displayed within brackets – utilise this information to gauge the appropriate amount of time to dedicate to each question
- Questions marked with an asterisk (*) will assess your written communication; be careful of spelling, punctuation and grammar with these questions

Advice:

- Carefully read the question before attempting to answer it
- Be vary of time and try to answer every question
- If you have enough time in the end, go back and check your answers. A good way to check your answers is to retry the question with the hope of getting the same answer as before without looking at your working out from before

NO CALCULATOR ALLOWED

NAME:	

1. Work out an estimate for the value of

5.1×98 → $5 \times 100 = 500$

500

(2 marks)

2. Estimate the value of

$\frac{68 \times 401}{198}$ → $\frac{(70 \times 400)}{200} = \frac{28000}{200} = 140$

140

(2 marks)

3. Work out an estimate for the value of

$\frac{637}{3.2 \times 9.8}$ → $\frac{600}{(3 \times 10)} = \frac{600}{30} = 20$

20

(2 marks)

4. Which is the best estimate for the value of

$$\frac{37.9\times 50.2}{2.1+2.98} \rightarrow \frac{(40\times 50)}{(2+3)} = \frac{2000}{5} = 400$$

400

(3 marks)

5. Which is the best estimate for the value of

$$\frac{38.3\times 51.7}{2.1} \rightarrow \frac{(40\times 50)}{2} = \frac{2000}{2} = 1000$$

1000

(3 marks)

6. Work out an estimate for

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

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

100

(3 marks)

7. Estimate the value of

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

$\rightarrow \frac{(800\times 20)}{100} = \frac{16000}{100} = 160$

160

(3 marks)

8. Work out an estimate for the value of

$$\frac{5.79 \times 312}{0.523} \rightarrow \frac{(6 \times 300)}{0.5} = \frac{1800}{0.5} = 3600$$

3600

(4 marks)

9. Which is the best estimate for the value of

$$\frac{410 \times 6.9}{0.23} \rightarrow \frac{(400 \times 7)}{0.2} = \frac{2800}{0.2} = 14000$$

14000

(4 marks)

10. Work out an estimate for

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

↳ $\frac{(30 \times 4)}{0.2} = \frac{120}{0.2} = 600$

600

(4 marks)

11. Work out an estimate for

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

↳ $\frac{(300 \times 10)}{0.5} = \frac{3000}{0.5} = 6000$

6000

(4 marks)

12. Work out an estimate for

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

$\hookrightarrow \frac{(400 \times 6)}{0.2} = \frac{2400}{0.2} = 12000$

12000

(4 marks)

13. Estimate the value of

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

$\hookrightarrow \frac{(20 \times 4)}{0.2} = \frac{80}{0.2} = 400$

400

(4 marks)

14. Work out an estimate for the value of

$$\frac{6.8\times191}{0.051}$$

$\frac{(7 \times 200)}{0.05} = \frac{1400}{0.05} = 28000$

28000

(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)