



## Foundation / Higher Tier

# Estimation

### 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.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.

### 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.*

### 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  $78 \times 54$

.....  
(Total for Question 1 is 3 marks)

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2. Work out an estimate for the value of  $399 \div 49$

.....  
(Total for Question 2 is 3 marks)

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3. Work out an estimate for the value of  $12.3 \times 3.9$

.....  
(Total for Question 3 is 3 marks)

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4. Work out an estimate for the value of  $\frac{84}{19.6}$

.....  
**(Total for Question 4 is 3 marks)**

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5. Work out an estimate for the value of  $\frac{7.9}{0.52}$

.....  
**(Total for Question 5 is 3 marks)**

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6. Work out an estimate for the value of  $\frac{48.3}{5.01}$

.....  
**(Total for Question 6 is 3 marks)**

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7. Work out an estimate for the value of  $\frac{73}{2.3 + 5.2}$

.....  
**(Total for Question 7 is 3 marks)**

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8. Work out an estimate for the value of  $\frac{19.8 + 61.6}{7.9}$

.....  
**(Total for Question 8 is 3 marks)**

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9. Work out an estimate for the value of  $\frac{7.2 \times 4.9}{5.1}$

.....  
**(Total for Question 9 is 3 marks)**

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10. Work out an estimate for the value of  $\frac{5.91^2}{2.98}$

.....  
(Total for Question 10 is 3 marks)

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11. Work out an estimate for the value of  $\frac{7.84 \times 15.2 + 3.91}{4.07}$

.....  
(Total for Question 11 is 3 marks)

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12. Work out an estimate for the value of  $\frac{\sqrt{37.7}}{6.12}$

.....  
(Total for Question 12 is 3 marks)

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13. (a) A bread roll costs £0.87 and a coffee costs £1.92. Estimate the total cost of 4 rolls and 5 coffees.

.....  
(2)

(b) Is your answer to part (a) an overestimate or an underestimate? Give reason for your answer.

.....  
.....  
.....

(1)

**(Total for Question 13 is 3 marks)**

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14. (a) A taxi ride costs £4.75 and a train ticket costs £18.40. Estimate the cost of 3 taxi rides and 2 train tickets.

.....  
(2)

(b) Is your answer to part (a) an overestimate or an underestimate? Give reason for your answer.

.....  
.....  
.....

(1)

**(Total for Question 14 is 3 marks)**

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**15.** (a) A bag contains 9.78 kg of rice. Each serving uses 2.04 kg.  
Estimate how many servings can be made.

.....  
(2)

(b) Is your answer to part (a) an overestimate or an underestimate? Give reason for your answer.

.....  
.....  
.....

(1)

**(Total for Question 15 is 3 marks)**

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**16.** (a) A car travels 198 km using 21.3 litres of fuel. Estimate how many kilometres the car travels per litre.

.....  
(2)

(b) Is your answer to part (a) an overestimate or an underestimate? Give reason for your answer.

.....  
.....  
.....

(1)

**(Total for Question 16 is 3 marks)**

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