

Name: \_\_\_\_\_

Exam Style Questions

## Estimation



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

### Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

Secondary

Video 215



1. Estimate  $2.9 \times 401$

$$\approx 3 \times 400$$

$$\begin{array}{r} 1200 \\ \hline \end{array}$$

(2)

2. Work out an estimate for the value of  $7.1 \times 97$

$$\approx 7 \times 100$$

$$\begin{array}{r} 700 \\ \hline \end{array}$$

(2)

3. Estimate the value of

$$\frac{908}{2.03} \approx \frac{900}{2}$$

$$\begin{array}{r} 450 \\ \hline \end{array}$$

(2)

4. Stuart buys 72 packets of crisps at 19p each.  
Estimate the total cost.

$$\approx 70 \times 20 = 1400p$$

$$\begin{array}{r} \text{£} 14.00 \\ \hline \end{array}$$

(2)

5. Work out an estimate for

$$\frac{58.8 \times 20.9}{101.4} \approx \frac{60 \times 20}{100}$$
$$\frac{1200}{100}$$
$$\underline{12}$$

(3)

6. Estimate the total cost of 31 televisions at £196.50 each and 19 DVD players at £50.99 each.

Show clearly how you obtained your answer.

$$\approx 30 \times 200 + 20 \times 50$$
$$= 6000 + 1000$$
$$\underline{7000}$$

(3)

7. Estimate

$$\frac{31 \times 398}{61}$$

Show clearly how you obtained your answer.

$$\approx \frac{30 \times 400}{60} = \frac{12000}{60}$$
$$= \frac{1200}{6} = \frac{600}{3} = 200$$
$$\underline{200}$$

(3)

8. Estimate the value of  $9.03 + 19.87 \times 3.11 - 4.97$

You must show your working.

$$\begin{aligned} &\approx 9 + 20 \times 3 - 5 \\ &= 9 + 60 - 5 \\ &= 69 - 5 = 64 \end{aligned}$$

$$\frac{64}{\dots\dots\dots} \\ (3)$$

9. Work out an estimate for

$$\frac{31.1 \times 19.4}{3.98 \times 5.04}$$

$$\approx \frac{30 \times 20}{4 \times 5} = \frac{600}{20} = 30$$

$$\frac{30}{\dots\dots\dots} \\ (3)$$

10. Estimate the value of

$$\frac{702.1 + 299.3}{1.9 \times 5.1}$$

$$\approx \frac{700 + 300}{2 \times 5} = \frac{1000}{10} = 100$$

$$\frac{100}{\dots\dots\dots} \\ (3)$$

11. Work out an estimate for

$$\frac{20.2 \times 698.1}{19.8 \times 5.3}$$

$$\approx \frac{20 \times 700}{20 \times 5} = \frac{14000}{100} = 140$$

$$\underline{\underline{140}}$$

(3)

12. Estimate the answer to

$$\frac{8.7 \times 20.3}{8.898 - 6.01}$$

$$\approx \frac{9 \times 20}{9 - 6} = \frac{180}{3} = 60$$

$$\underline{\underline{60}}$$

(3)

13. In a theatre there are 29 rows and in each row there are 32 seats.  
Each ticket costs £19.75  $\approx$  £20

Work out an estimate for the total income from ticket sales.

$$\approx 30 \times 30 = 900 \text{ seats}$$

$$900 \times 20 = 18000$$

$$\underline{\underline{£18000}}$$

(3)

14. Estimate how many books costing \$7.05 can be bought for \$424

$$\approx 420 \div 7 = 60$$

$$\text{or } 400 \div 7 = 57.14\ldots$$

57

.....  
(2)

15. Work out an estimate for

$$\frac{203 \times 9.93}{0.511}$$

0.511

$$\approx \frac{200 \times 10}{0.5} = \frac{2000}{0.5} = \frac{4000}{1}$$

↙

$$\frac{20000}{5} = 4000$$

4000  
(3)

16. Use approximations to estimate the value of

$$\frac{4.12 \times 1.89}{0.21}$$

0.21

$$\approx \frac{4 \times 2}{0.2} = \frac{8}{0.2} \times 5 = \frac{40}{1}$$

↙

$$\frac{80}{2} = 40$$

40  
(3)

17. Work out an estimate for

$$\frac{(5.14)^2}{0.398}$$

$$\approx \frac{5^2}{0.4} = \frac{25}{0.4} = \frac{250}{4}$$

$$\frac{62.5}{\dots\dots\dots}$$

(3)

18. Work out an estimate for

$$\frac{4.086 \times 2.992}{0.192}$$

$$\approx \frac{4 \times 3}{0.2} = \frac{12}{0.2} = \frac{120}{2} = 60$$

$$\frac{60}{\dots\dots\dots}$$

(3)

19. Use approximations to estimate the value of

$$\frac{596.4 \times 2.06}{0.521}$$

$$\frac{600 \times 2}{0.5} = \frac{1200}{0.5} = \frac{2400}{1}$$

↓ or

$$\frac{12000}{5} = 2400$$

$$\frac{2400}{\dots\dots\dots}$$

(3)

20. Write down an estimate for  $\sqrt{20}$

$$\sqrt{16} = 4$$
$$\sqrt{25} = 5$$

4.5  
.....  
(1)

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21. Write down an estimate for  $\sqrt{51}$

$$\sqrt{49} = 7$$
$$\sqrt{64} = 8$$

7.1  
.....  
(1)

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22. Write down an estimate for  $\sqrt{78}$

$$\sqrt{81} = 9$$
$$\sqrt{64} = 8$$

8.9  
.....  
(1)

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23. Write down an estimate for  $\sqrt[3]{30}$

$$\sqrt[3]{27} = 3$$
$$\sqrt[3]{64} = 4$$

3.1  
.....  
(1)



24. Estimate

$$\frac{594 \times 4.03}{0.396}$$

$$\approx \frac{600 \times 4}{0.4} = \frac{2400}{0.4} = \frac{24000}{4} = 6000$$

.....  
(3)

25. Use approximations to estimate the value of

$$\sqrt{\frac{50.77}{0.513}}$$

You must show your working.

$$\approx \sqrt{\frac{50}{0.5}} = \sqrt{100} = 10$$

10  
.....  
(3)

26. Estimate the value of

$$\frac{803 \times 2.97}{0.613}$$

$$\approx \frac{800 \times 3}{0.6} = \frac{2400}{0.6} =$$

$$\frac{24000}{6} = 4000$$

4000  
.....  
(3)