

GCSE Maths: Estimation and checking answers (Foundation): answers

GCSE Maths - Decimals, Rounding and Estimation - Foundation - Lesson 4.7

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch04-decimals-rounding-estimation/foundation/estimation-and-checking-answers/

Exercise 4H Estimation and checking answers Non-calculator

1 Round each number to 1 significant figure.

(a) 38

Answer: 40

(b) 0.0472

Answer: 0.05

(c) 6.51

Answer: 7

(d) 8420

Answer: 8000

(e) 0.96

Answer: 1

(f) 152

Answer: 200

2 Estimate the value of each calculation by rounding each number to 1 significant figure.

(a) 4.8×6.1

Answer: 30

(b) 9.7×3.2

Answer: 30

(c) 31×1.9

Answer: 60

(d) 0.82×48

Answer: 40

(e) 72×0.48

Answer: 35

(f) 6.3×8.9

Answer: 54

3 Estimate the value of each calculation.

(a) $596 \div 2.9$

Answer: 200

(b) $81.3 \div 3.9$

Answer: 20

(c) $4.9 \div 0.51$

Answer: 10

(d) $1920 \div 39$

Answer: 50

(e) $6.4 \div 0.31$

Answer: 20

4 Estimate the value of each calculation.

(a) $(3.8 + 6.1) \times 2.9$

Answer: 30

(b) $\frac{4.9 \times 21}{0.48}$

Answer: 200

(c) $\frac{7.9 - 2.1}{0.52}$

Answer: 12

(d) $48.2 - 19.7$

Answer: 30

5 Estimate each calculation.

(a) 3.1×28

Answer: 90

(b) 7.2×5.9

Answer: 42

(c) 88×0.12

Answer: 9

6 A shop sells 38 bags of oranges at £4.95 each. Estimate the total amount of money the shop takes.

Answer: £200

7 A concert has 312 tickets sold at £19.50 each. Estimate the total money from ticket sales.

Answer: £6000

8 A car uses 6.2 litres of petrol for every 100 km. Estimate the amount of petrol needed for a journey of 487 km. (Use $\frac{6.2 \times 487}{100}$.)

Answer: 30 litres

- 9 Jo has £50. She wants to buy three items that cost £14.75, £22.99 and £8.49. By rounding each price **up** to the next pound, show that she has enough money.

Answer: Yes (rounded-up total £47 is less than £50)

- 10 Each of these answers was found with a calculator. Use an estimate to decide whether each answer is sensible.

(a) $4.8 \times 31 = 1488$

Answer: No, it is not sensible

(b) $596 \div 2.9 = 20.55$

Answer: No, it is not sensible

(c) $7.2 \times 0.48 = 3.456$

Answer: Yes, it is sensible

(d) $81.3 \div 3.9 = 20.846...$ (to 5 s.f.)

Answer: Yes, it is sensible

- 11 For each calculation, work out an estimate by rounding to 1 significant figure. Say whether your estimate is an over-estimate or an under-estimate. Give a reason.

(a) $4.8 \times 3.9 \div 0.44$

Answer: over-estimate

(b) 6.7×8.6

Answer: over-estimate

(c) $29 \div 0.52$

Answer: over-estimate

(d) 4.2×21

Answer: under-estimate

- 12 Zoe says: "To estimate 0.52×48 , I round 0.52 to 1 significant figure and get 1." Explain what she has done wrong and work out a correct estimate.

Answer: $0.5 \times 50 = 25$

- 13 Without a calculator, decide whether 31.2×0.42 is closest to 1.2, 12 or 120. Show your working.

Answer: 12