GCSE Maths

Numbers

Estimating & Rounding - Answers

Simple Questions – Answers

1. 750

2. 3,800

3. 13,000

4. 4.4

5. 5.74

Medium Questions – Answers

6. Estimating 397 + 612 by rounding to the nearest 100
   400 + 600 = 1,000
   Estimated answer = 1,000

7. Estimating 19 × 42 by rounding to the nearest 10
   20 × 40 = 800
   Estimated answer = 800

8. 0.0085

9. Error in rounding 6,849 to 6,900 (nearest 100)?
   Correct rounding: 6,800
   Explanation: Since 849 is closer to 800 than 900, the correct rounding is 6,800.

10. Estimating (4.92 × 203) ÷ 48 by rounding
    Round 4.92 → 5, 203 → 200, 48 → 50
    (5 × 200) ÷ 50 = 1,000 ÷ 50 = 20
    Estimated answer = 20

Difficult Questions – Answers

11. Upper and lower bounds for 3.6 m (rounded to 1 decimal place):
Lower bound: 3.55 m
Upper bound: 3.65 m

12. Error interval for 4.6 (rounded to 2 significant figures):
Lower bound: 4.55
Upper bound: 4.65
Interval notation: $4.55 \leq x < 4.65$

13. Upper bound for the area of a rectangle (5.4 cm × 3.2 cm rounded to 1 d.p.)
Length bounds: $5.35 \text{ cm} \leq L < 5.45 \text{ cm}$
Width bounds: $3.15 \text{ cm} \leq W < 3.25 \text{ cm}$
Upper bound for area: $5.45 \times 3.25 = 17.7125 \text{ cm}^2$
Answer: 17.71 cm^2 (2 d.p.)

14. Estimating √50 to 1 decimal place using known square numbers:
√49 = 7, √64 = 8
√50 is slightly more than 7
Estimate: 7.1

15. Upper bound for average speed in km/min (distance = 120 km, time = 85 min rounded to nearest 5 minutes):
Time bounds: $82.5 \text{ min} \leq t < 87.5 \text{ min}$
Distance bounds: $115 \text{ km} \leq d < 125 \text{ km}$
Upper bound for speed: $125 \div 82.5 \approx 1.52$ km/min
Answer: 1.52 km/min