Bounds in calculations

Exit ticket ANSWERS Name _____

1. A plank is 80 cm, to the nearest 10 cm. Write down its lower and upper bounds.

   75 cm and 85 cm

2. A rectangle is 9 cm by 5 cm, each to the nearest cm. Find the greatest possible area.

   $9.5 \times 5.5 = 52.25\ cm^2$

3. A car travels 80 km, to the nearest 10 km, in 3 hours, to the nearest hour. Find the greatest possible average speed.

   $85 \div 2.5 = 34\ km/h$

The Maths Habit

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Exit ticket Bounds in calculations

NEXT LESSON

1 **A plank is 80 cm, to the nearest 10 cm. Write down its lower and upper bounds.**

75 cm and 85 cm

TESTS The bounds of a value rounded to the nearest 10

LOOK FOR

70 cm and 90 cm the bounds are half of 10 either side: 5 cm

79.5 cm and 80.5 cm half a cm is for the nearest cm, not the nearest 10 cm

FIX IT

A bag is 3.4 kg, to 1 decimal place. Write down its lower and upper bounds.

3.35 kg and 3.45 kg

2 **A rectangle is 9 cm by 5 cm, each to the nearest cm. Find the greatest possible area.**

9.5 × 5.5 = 52.25 cm²

TESTS The greatest area: both upper bounds

LOOK FOR

45 cm² the bounds were not used: 9 cm could be up to 9.5 cm

38.25 cm² 8.5 × 4.5 is the least area: the greatest uses both upper bounds

FIX IT

A rectangle is 6 cm by 2 cm, each to the nearest cm. Find the least possible area.

5.5 × 1.5 = 8.25 cm²

3 **A car travels 80 km, to the nearest 10 km, in 3 hours, to the nearest hour. Find the greatest possible average speed.**

85 ÷ 2.5 = 34 km/h

TESTS The greatest speed: the bounds from opposite ends

LOOK FOR

24.29 km/h 85 ÷ 3.5: dividing by the bigger time gives a smaller speed, so use 2.5

26.67 km/h 80 ÷ 3: the bounds were not used

FIX IT

A van travels 60 km, to the nearest 10 km, in 3 hours, to the nearest hour. Find the greatest possible average speed.

65 ÷ 2.5 = 26 km/h