

## Core

- 1: Work out the missing value in the estimation below.

$$237 + 462 \approx 200 + \underline{\hspace{2cm}}$$


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- 2: By first rounding each number to 1 significant figure, estimate the answer to  $427 + 941$
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- 3: Work out the missing values in the following estimation:

$$47 \times 116 \approx \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$$


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- 4: By first rounding both numbers to 1 significant figure, estimate the answer to  $13 \times 378$
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- 5: Work out the missing value in this estimation.

$$0.547 - 0.364 \approx 0.5 - \underline{\hspace{2cm}}$$


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- 6: Estimate the value of

$$0.581 - 0.246$$

## Extension

- 1: Work out the missing value in this estimation.

$$8.43 \times 1.72 \approx 8 \times \boxed{\hspace{1cm}}$$


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2: Estimate  $4.26 + 7.82$

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3: Aimee is estimating  $315 \times 47$  by first rounding to 1 s.f.

Which of these calculations should Aimee use?

$$300 \times 0$$

$$315 \times 50$$

$$300 \times 47$$

$$300 \times 50$$

$$320 \times 50$$

$$315 \times 47$$

$$320 \times 0$$

$$315 \times 0$$

$$320 \times 47$$


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4: Estimate  $\frac{21.4}{4.6}$

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5: By rounding each number below to 1 significant figure, estimate the value of

$$\frac{6.3+7.5}{1.7}$$


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6: Estimate the value of

$$71.326 \times 4.381$$

## Challenge

1: Estimate the value of

$$0.0348 \times 0.0753$$


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2: Estimate  $\frac{126.4}{5}$

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3: Ria buys 19 textbooks, which cost £6.82 each.

By first rounding both numbers to 1 significant figure, estimate the total amount of money Ria spends.

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- 4: Jacob is trying to calculate  $55 \times 219$  but he has an incorrect answer.
- a) By rounding each number to 1 significant figure, find an estimate for the correct answer.
- b) Write a sentence to explain how Jacob could use an estimate to tell that his answer is incorrect.



- 5: A customer asks Polly, a plumber, how much it will cost to fit a bathroom. Polly estimates the cost based on how long she thinks it will take and what she will need to buy.
- a) Why does Polly give an estimate rather than the final cost?
- b) In what other jobs might estimating be useful? Give two examples.
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- 6: Estimating  $36 \times 47$  gives an **overestimate** because both numbers round **up** when rounded to 1 s.f.
- a) Give an example of a multiplication that is **underestimated** when both numbers are rounded to 1 s.f.
- b) Give an example of a multiplication where it is not possible to tell, without doing the calculation, whether it will be overestimated or underestimated.