

WA7MNAC6

Calculating with number

Core + Challenge

Multiplying Decimals

I can multiply decimals using place value and efficient strategies, and check that my answer is reasonable.

Name: _____ Date: _____ Score: _____ / 58

Key idea

Method: multiply as whole numbers, then count the total decimal places in the question. 0.8×0.09 : $8 \times 9 = 72$, 3 d.p. $\rightarrow 0.072$

Why: $0.6 \times 0.5 = \frac{6}{10} \times \frac{5}{10} = \frac{30}{100} = 0.30$. Multiplying by a number less than 1 makes the answer **smaller**.

Efficient strategies: $7.8 \times 9 = 7.8 \times 10 - 7.8 = 70.2$ $0.25 \times 1.2 = \frac{1}{4}$ of $1.2 = 0.3$ $48 \times 2.5 = 24 \times 5 = 120$

Always estimate: $4.9 \times 6.1 \approx 5 \times 6 = 30$, so 29.89 is reasonable.

A

Fluency *practise the skill*

/ 16 marks

Work out each product without a calculator.

1. $0.3 \times 4 =$ _____

9. $0.8 \times 0.09 =$ _____

2. $0.6 \times 0.5 =$ _____

10. $12.5 \times 0.8 =$ _____

3. $2.4 \times 3 =$ _____

11. $7.8 \times 9 =$ _____

4. $0.07 \times 8 =$ _____

12. $0.15 \times 0.6 =$ _____

5. $1.5 \times 0.4 =$ _____

13. $2.05 \times 4 =$ _____

6. $3.6 \times 100 =$ _____

14. $6.3 \times 0.07 =$ _____

7. $0.25 \times 1.2 =$ _____

15. $1.25 \times 3.2 =$ _____

8. $4.5 \times 2.2 =$ _____

16. $0.004 \times 250 =$ _____

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B

Core *apply the skill to problems*

/ 23 marks

- 1 Fuel costs \$1.89 per litre. How much does it cost to buy 42 L? [2 marks]

.....
 Answer: _____

- 2 A rectangular rug is 3.5 m long and 2.4 m wide. Find its area. [2 marks]

.....
 Answer: _____

- 3 Six drinks cost \$2.35 each. [2 marks]

- (a) What is the total cost?
 (b) How much change from \$20?

.....
 Answer: _____

- 4 Carpet costs \$38.50 per square metre. A bedroom is 4.2 m by 3.5 m. How much will it cost to carpet the room? [3 marks]

.....
 Answer: _____

- 5 A water bottle holds 0.75 L. How many litres do 12 bottles hold? [2 marks]

.....
 Answer: _____

- 6 Estimate 4.9×6.1 , then calculate it exactly. Is your answer reasonable? [2 marks]

.....
 Answer: _____

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- 7 One Australian dollar buys 0.65 US dollars. How many US dollars do you get for \$240 AUD? [2 marks]

.....

Answer:

- 8 Rice costs \$4.60 per kilogram. How much does a 2.5 kg bag cost? [2 marks]

.....

Answer:

- 9 Square tiles have sides of 0.3 m. What area (in m^2) do 45 tiles cover? [3 marks]

.....

.....

Answer:

- 10 A home uses 18.5 kWh of electricity per day. Electricity costs \$0.32 per kWh. How much does electricity cost for one week? [3 marks]

.....

.....

Answer:

C Reasoning *explain, justify and check*

/ 9 marks

- 1 Explain why 0.6×0.5 is smaller than both 0.6 and 0.5. [2 marks]

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.....

- 2 Lily says $0.4 \times 0.2 = 0.8$. Explain her mistake and give the correct answer. [2 marks]

.....

.....

- 3 Given $23 \times 47 = 1081$, write down:
(a) 2.3×4.7 (b) 0.23×470 (c) 23×0.047 [3 marks]

.....

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- 4 Without calculating, is $48 \times 2.5 = 12 \times 10$ true or false? Explain. [2 marks]

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.....

D Challenge *multi-step and problem-solving*

/ 10 marks

- 1 Find two different pairs of decimals, each with one decimal place, whose product is 0.24. [2 marks]

.....

.....

Answer: _____

- 2 A number multiplied by 0.4 gives 3.6. [2 marks]

(a) What is the number?

(b) What is that number multiplied by 0.04?

.....

.....

Answer: _____

- 3 Use three **different** digits to complete $\square.\square \times \square = 22.4$. Find two different ways. [3 marks]

.....

.....

- 4 A rectangle's length is 2.5 times its width. The width is 3.6 cm. [3 marks]

(a) Find the area.

(b) Find the perimeter.

.....

.....

Answer: _____

How did I go?

Fluency ___ / 16 Core ___ / 23 Reasoning ___ / 9 Challenge ___ / 10 **Total ___ / 58**

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