

# Decimal Multiplication

Grade 6–7 · Tricky Questions · 20 Problems

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 20

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## Type A · Decimal × Decimal

*Key Tip: Count total decimal places in both numbers → place that many in the answer.*

**Q1.  $0.3 \times 0.7 = ?$**

- A) 2.1  
B) 0.21  
C) 0.021  
D) 21

**Answer: B) 0.21 | Why:  $3 \times 7 = 21$ . Total decimal places =  $1 + 1 = 2$ . Move point 2 left → 0.21**

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## Type A · Decimal × Decimal

*Key Tip: TRAP:  $0.4 \times 0.4 \neq 0.16$  only if you count correctly!  $1 + 1 = 2$  decimal places.*

**Q2.  $0.04 \times 0.4 = ?$**

- A) 0.016  
B) 0.16  
C) 1.6  
D) 0.0016

**Answer: A) 0.016 | Why:  $4 \times 4 = 16$ . Decimal places:  $2 + 1 = 3$ . → 0.016**

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## Type A · Decimal × Decimal

*Key Tip: Zero trap:  $0.05 \times 0.05$  — count 4 decimal places total.*

**Q3.  $0.05 \times 0.05 = ?$**

- A) 0.25  
B) 0.025  
C) 0.0025  
D) 0.00025

**Answer: C) 0.0025 | Why:  $5 \times 5 = 25$ . Decimal places:  $2 + 2 = 4$ . → 0.0025**

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## Type B · Multiply by 0.1 / 0.01

*Key Tip:  $\times 0.1 = \div 10$  (move decimal LEFT 1).  $\times 0.01 = \div 100$  (move LEFT 2).*

**Q4.  $47.6 \times 0.1 = ?$**

- A) 476  
B) 4.76  
C) 0.476  
D) 47.6

**Answer: B) 4.76 | Why:  $\times 0.1$  means move decimal 1 place left:  $47.6 \rightarrow 4.76$**

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## Type B · Multiply by 0.1 / 0.01

*Key Tip:  $\times 0.01 =$  move decimal 2 places LEFT. Many students move it RIGHT — that's the trap!*

**Q5.  $360 \times 0.01 = ?$**

- A) 36,000  
B) 36  
C) 3.6  
D) 0.36

**Answer: C) 3.6 | Why:  $\times 0.01 =$  move decimal 2 left:  $360. \rightarrow 3.60 = 3.6$**

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## Type B · Multiply by 0.1 / 0.01

*Key Tip: Combine rule:  $\times 0.001 =$  move decimal 3 places LEFT.*

**Q6.  $5,000 \times 0.001 = ?$**

- A) 50  
B) 5

C) 0.5

D) 500

**Answer: B) 5 | Why:  $\times 0.001 =$  move 3 left: 5000.  $\rightarrow 5.000 = 5$**

Type C - Estimation & Reasonableness

Key Tip: Estimate first!  $0.9 \times 0.9$  must be LESS than 1 (two numbers less than 1 multiplied = smaller result).

**Q7. Which is the most reasonable estimate for  $0.91 \times 0.88$ ?**

A) About 8

B) About 0.8

C) About 8.0

D) About 80

**Answer: B) About 0.8 | Why:  $0.91 \approx 0.9$  and  $0.88 \approx 0.9$ . Product  $\approx 0.9 \times 0.9 = 0.81 \approx 0.8$**

Type C - Estimation & Reasonableness

Key Tip: TRAP: multiplying by a decimal  $< 1$  makes the number SMALLER, not bigger.

**Q8.  $8.5 \times 0.6 = ?$  Without calculating, which answer is reasonable?**

A) Greater than 8.5

B) Equal to 8.5

C) Less than 8.5

D) Greater than 85

**Answer: C) Less than 8.5 | Why: Multiplying by 0.6 ( $< 1$ ) always gives a result smaller than the original number.**

Type D - Find the Missing Factor

Key Tip: Work backwards: if  $A \times ? = B$ , then  $? = B \div A$ . Apply decimal rules carefully.

**Q9.  $3.6 \times \underline{\quad} = 0.36$**

A) 10

B) 0.1

C) 0.01

D) 100

**Answer: B) 0.1 | Why:  $0.36 \div 3.6 = 0.1$ . Or:  $\times 0.1$  moves decimal 1 left:  $3.6 \rightarrow 0.36 \checkmark$**

Type D - Find the Missing Factor

Key Tip: If the product is LARGER than the original, the missing factor must be  $> 1$ .

**Q10.  $\underline{\quad} \times 0.25 = 7.5$**

A) 3

B) 0.3

C) 30

D) 300

**Answer: C) 30 | Why:  $7.5 \div 0.25 = 7.5 \times 4 = 30$ . Check:  $30 \times 0.25 = 7.5 \checkmark$**

Type E - Word Problem

Key Tip: Keyword 'per' = multiply. Read carefully: per kg, per mile, per hour  $\rightarrow \times$

**Q11. A bottle of juice costs \$1.85. Sam buys 0.5 of a bottle. How much does he pay?**

A) \$3.70

B) \$0.925

C) \$9.25

D) \$0.93

**Answer: B) \$0.925 | Why:  $1.85 \times 0.5 = 0.925$ . (In money context, this rounds to \$0.93, but exact = \$0.925)**

Type E - Word Problem

Key Tip: Unit rate  $\times$  quantity. Always check: does your answer make sense in context?

**Q12. A car travels 12.4 miles per gallon. It uses 3.5 gallons. How far did it travel?**

A) 4.34 miles

B) 43.4 miles

C) 434 miles

D) 3.54 miles

Answer: B) 43.4 miles | Why:  $12.4 \times 3.5$ :  $12.4 \times 3 = 37.2$ ,  $12.4 \times 0.5 = 6.2$ . Sum = 43.4 miles ✓

Type E - Word Problem

Key Tip: TRAP: 'times as much' = multiply. 'More than' = add. Read the exact wording!

**Q13. Mia earns \$9.60 per hour. She works 7.5 hours. What are her total earnings?**

- A) \$17.10  
B) \$72.00  
C) \$720.00  
D) \$67.20

Answer: B) \$72.00 | Why:  $9.60 \times 7.5$ :  $9.60 \times 7 = 67.20$ ,  $9.60 \times 0.5 = 4.80$ . Total =  $67.20 + 4.80 = \$72.00$  ✓

Type F - Compare Without Calculating

Key Tip: Rule:  $A \times n > A$  when  $n > 1$ .  $A \times n < A$  when  $0 < n < 1$ . Use this to compare instantly.

**Q14. Without calculating, which is TRUE?**

$4.7 \times 1.3$  vs  $4.7$

- A)  $4.7 \times 1.3 < 4.7$   
B)  $4.7 \times 1.3 = 4.7$   
C)  $4.7 \times 1.3 > 4.7$   
D) Cannot tell

Answer: C)  $4.7 \times 1.3 > 4.7$  | Why: Since  $1.3 > 1$ , multiplying  $4.7$  by it gives a result larger than  $4.7$ .

Type F - Compare Without Calculating

Key Tip: Same rule:  $n < 1 \rightarrow$  product shrinks. No calculator needed if you know the rule!

**Q15. Which expression has the SMALLEST value?**

- A)  $6.2 \times 1.0$   
B)  $6.2 \times 0.99$   
C)  $6.2 \times 1.01$   
D)  $6.2 \times 1$

Answer: B)  $6.2 \times 0.99$  | Why:  $0.99 < 1$ , so  $6.2 \times 0.99 < 6.2$ . The others equal or exceed  $6.2$ . Smallest = B.

Type G - Decimal  $\times$  Whole Number

Key Tip: Ignore the decimal, multiply whole numbers, THEN place the decimal. Don't rush!

**Q16.  $0.125 \times 8 = ?$**

- A) 10  
B) 0.1  
C) 1.0  
D) 0.01

Answer: C) 1.0 | Why:  $125 \times 8 = 1,000$ . Three decimal places  $\rightarrow 1.000 = 1.0$  ✓

Type G - Decimal  $\times$  Whole Number

Key Tip: TRICK:  $0.125 = 1/8$ . So  $\times 8 = 1$ . Recognizing fraction equivalents saves time!

**Q17.  $24 \times 0.25 = ?$**

- A) 60  
B) 6  
C) 0.6  
D) 96

Answer: B) 6 | Why:  $0.25 = 1/4$ . So  $24 \times 1/4 = 24 \div 4 = 6$ . Or:  $24 \times 25 = 600$ , then 2 decimal places  $\rightarrow 6.00 = 6$  ✓

Type H - Chained / Multi-step

Key Tip: Handle one decimal at a time. Multiply left to right and track decimal places cumulatively.

**Q18.  $0.2 \times 0.3 \times 0.5 = ?$**

- A) 0.3  
B) 0.03  
C) 0.003  
D) 3

