

Multiplying and Dividing Decimals: practice solutions, Grade 5 – download the PDF

Written solutions to the chapter problems. Check each step, then correct yourself.

1 Multiply by 10, 100, and 1,000



Each digit moves one place to the left for every factor of 10.

- a. $3.7 \times 10 = 37$
- b. $0.46 \times 100 = 46$
- c. $5.2 \times 1,000 = 5,200$ (we add two zeros as placeholders)
- d. $0.008 \times 1,000 = 8$
- e. $12.35 \times 10 = 123.5$

2 Divide by 10, 100, and 1,000



Each digit moves one place to the right for every factor of 10.

- a. $45 \div 10 = 4.5$
- b. $6.3 \div 100 = 0.063$
- c. $820 \div 1,000 = 0.82$
- d. $7.5 \div 10 = 0.75$
- e. $0.9 \div 10 = 0.09$

3 Find the missing number



- a. From 2.8 to 280 the digits move two places left, so the number is **100**.
- b. From 91 to 0.91 the digits move two places right, so we divide by **100**.
- c. Undo the multiplication by 10: $6.5 \div 10 = 0.65$.
- d. Undo the division by 1,000: $0.034 \times 1,000 = 34$.

4 Decimal times a whole number



- a. $4 \times 6 = 24$ tenths, so $0.4 \times 6 = 2.4$.
- b. $13 \times 5 = 65$, one decimal place: **6.5**.
- c. $25 \times 4 = 100$, one decimal place: **10.0 = 10**.
- d. $32 \times 3 = 96$, one decimal place: **9.6**.
- e. $7 \times 8 = 56$ hundredths, so $0.07 \times 8 = 0.56$.

5 Notebooks at the store



We repeat the price 4 times: 2.30×4 .

$230 \times 4 = 920$, and the price has two decimal places, so the total is **9.20**.

Maya pays **\$9.20**.

6 Divide by a whole number



- a. $8.4 \div 4 = 2.1$. Check: $2.1 \times 4 = 8.4$.
- b. $9.6 \div 3 = 3.2$. Check: $3.2 \times 3 = 9.6$.
- c. $0.72 \div 6 = 0.12$. Check: $0.12 \times 6 = 0.72$.
- d. $5.5 \div 5 = 1.1$. Check: $1.1 \times 5 = 5.5$.
- e. $3.6 \div 9 = 0.4$. Check: $0.4 \times 9 = 3.6$.

7 Place the decimal point



The digits are always 312. Count the decimal places in both factors.

- a. $1 + 1 = 2$ places: **3.12**.
- b. $2 + 0 = 2$ places: **3.12**.
- c. $0 + 3 = 3$ places: **0.312**.
- d. $1 + 2 = 3$ places: **0.312**.

8 Read the area model



- a. The rectangle has 7 columns and 6 rows.
- b. It shows 0.7×0.6 . It contains $7 \times 6 = 42$ little squares, which is 42 hundredths. So $0.7 \times 0.6 = 0.42$.
- c. Shade 5 columns and 9 rows: $5 \times 9 = 45$ squares. So $0.5 \times 0.9 = 0.45$.

9 Multiply with more digits



- a. $34 \times 6 = 204$, one decimal place: 20.4 .
- b. $525 \times 4 = 2,100$, two decimal places: $21.00 = 21$.
- c. $85 \times 12 = 1,020$, two decimal places: $10.20 = 10.2$.
- d. $607 \times 5 = 3,035$, two decimal places: 30.35 .

10 Decimal times decimal



- a. $15 \times 24 = 360$, 2 places: $3.60 = 3.6$.
- b. $8 \times 35 = 280$, $1 + 2 = 3$ places: $0.280 = 0.28$.
- c. $42 \times 5 = 210$, $1 + 1 = 2$ places: $2.10 = 2.1$.
- d. $6 \times 9 = 54$, $2 + 1 = 3$ places: 0.054 .

11 Estimate to place the point



Round: $6.8 \approx 7$ and $4.9 \approx 5$, so the product should be close to $7 \times 5 = 35$.

Only **33.32** is close to 35. Also, $1 + 1 = 2$ decimal places gives **33.32**. So $6.8 \times 4.9 = 33.32$.

12 Flour for the bakery



Multiply the amount per loaf by the number of loaves: 0.35×14 .

$35 \times 14 = 490$, and 0.35 has two decimal places, so the product is $4.90 = 4.9$.

The baker needs 4.9 kilograms of flour.

13 Divide, then check



- a. $15.6 \div 4 = 3.9$, since $3.9 \times 4 = 15.6$.
- b. $7.2 \div 8 = 0.9$, since $0.9 \times 8 = 7.2$.
- c. $0.45 \div 5 = 0.09$, since $0.09 \times 5 = 0.45$.
- d. $14.7 \div 7 = 2.1$, since $2.1 \times 7 = 14.7$.
- e. $9 \div 4: 9 = 9.00$, and $900 \div 4 = 225$ hundredths, so the answer is **2.25**. Check:
 $2.25 \times 4 = 9$.

14 Whole number divided by a decimal



- a. There are 2 halves in each whole, so $4 \div 0.5 = 8$.
- b. Multiply both numbers by 10: $90 \div 3 = 30$.
- c. Multiply both numbers by 100: $600 \div 25 = 24$.
- d. Multiply both numbers by 10: $20 \div 1 = 20$.

15 Inches, centimeters, and miles



- a. $5.5 \times 2.54: 55 \times 254 = 13,970$, $1 + 2 = 3$ places: $13.970 = 13.97$. The phone is 13.97 cm tall.
- b. $72 \times 2.54: 72 \times 254 = 18,288$, 2 places: 182.88 . The pole is 182.88 cm tall.
- c. $3 \times 1.61 = 4.83$. The trail is 4.83 km long.

16 Always, sometimes, never?



- a. True. For example $70 \times 0.1 = 7$ and $70 \div 10 = 7$. Both move each digit one place to the right.
- b. False. $5.2 \times 0.4 = 2.08$, which is less than 5.2. Multiplying by a number smaller than 1 makes the result smaller.
- c. False. $6 \div 0.5 = 12$, which is greater than 6. Dividing by a number smaller than 1 makes the result bigger.
- d. True. $9 \times 9 = 81$, and $1 + 1 = 2$ decimal places, so $0.9 \times 0.9 = 0.81$.

17 Find the mistake



- a. Leo multiplied $3 \times 4 = 12$ but forgot to place the decimal point. Each factor has 1 decimal place, so the product needs 2 decimal places. Also, 1.2 is bigger than both factors, which is impossible when we multiply two numbers smaller than 1.
- b. $0.3 \times 0.4 = 0.12$. On the grid, 3 columns by 4 rows make 12 squares out of 100, which is 0.12.
- c. No. He divided by 2 instead of 0.5. We compute $25 \div 5 = 5$, so $2.5 \div 0.5 = 5$.
Check: $5 \times 0.5 = 2.5$.

18 Fruit stand



- a. 3.5×1.20 : $35 \times 120 = 4,200$, $1 + 2 = 3$ places: **4.200**. The apples cost **\$4.20**.
- b. $2 \times 1.75 = 3.50$. The pears cost **\$3.50**.
- c. Total: $4.20 + 3.50 = 7.70$. Change: $10 - 7.70 = 2.30$. Lena gets **\$2.30** back.

19 Pouring juice



- a. $7.2 \div 0.3 = 72 \div 3 = 24$. So 24 cups.
- b. $7.2 \div 0.45 = 720 \div 45 = 16$. Check: $16 \times 0.45 = 7.2$. So 16 bottles.
- c. The small cups need more: $24 - 16 = 8$ more containers.

20 Drone flight



- a. 0.45×12 : $45 \times 12 = 540$, 2 places: $5.40 = 5.4$. It flies 5.4 km.
- b. $9 \div 0.45 = 900 \div 45 = 20$. Check: $20 \times 0.45 = 9$. It needs 20 minutes.

21 Number puzzles



- a. The number is $4,250 \div 1,000 = 4.25$. Divided by 10 it gives **0.425**.
- b. Use the opposite operation: $1.35 \times 4 = 5.4$. Check: $5.4 \div 4 = 1.35$.
- c. $4.8 \div 6 = 0.8$. Check: $0.8 \times 6 = 4.8$.

22 Garden bed and soil



- a. Area = length times width = 2.5×1.2 . We compute $25 \times 12 = 300$, $1 + 1 = 2$ places: **3.00**. The area is 3 square meters.
- b. $3 \div 0.5 = 30 \div 5 = 6$. We need 6 bags.
- c. $6 \times 4.25 = 25.50$. The total cost is **\$25.50**.



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