

Decimal Operations: Add, Subtract, Multiply, Divide

Grade 6 math · Worksheet Answer Key · Standards: 6.NS.B.3

Every problem has a full worked solution with the final answer in bold. Look at how the decimal points are aligned or counted, and compare each answer with a quick estimate.

Standards: 6.NS.B.3 · **Level:** Grade 6

Problem 1 Adding Decimals

Write 12.90 under 3.46 with the points aligned: $3.46 + 12.90 = 16.36$.

Answer: **16.36**.

Problem 2 Subtracting from a Whole Number

Write 20 as 20.00. Then $20.00 - 7.35 = 12.65$.

Check: $12.65 + 7.35 = 20$.

Answer: **12.65**.

Problem 3 Adding Money

$4.75 + 12.40 = 17.15$, and $17.15 + 0.99 = 18.14$.

Answer: **\$18.14**.

Problem 4 Subtracting with Zeros

Write 2.76 as 2.760. Then $8.004 - 2.760 = 5.244$.

Check: $5.244 + 2.760 = 8.004$.

Answer: **5.244**.

Problem 5 Aligning Decimals

Hundredths: $0 + 8 + 0 = 8$. Tenths: $6 + 7 + 0 = 13$, write 3 carry 1. Ones: $5 + 0 + 4 + 1 = 10$, write 0 carry 1. Tens: $1 + 1 = 2$.

Answer: **20.38**.

$$\begin{array}{r} 5.60 \\ 0.78 \\ + 14.00 \\ \hline 20.38 \end{array}$$

Sum is 20.38.

Problem 6 Decimal Times Whole Number

(a) $64 \times 7 = 448$; one decimal place gives 44.8.

(b) $35 \times 12 = 420$; two decimal places give $4.20 = 4.2$.

Answer: **(a) 44.8; (b) 4.2**.

Problem 7 Decimal Times Decimal

(a) $36 \times 7 = 252$, two places: 2.52.

(b) $8 \times 9 = 72$, three places: 0.072.

(c) $125 \times 4 = 500$, three places: $0.500 = 0.5$.

Answer: **(a) 2.52; (b) 0.072; (c) 0.5**.

Problem 8 Placing the Point

(a) $1 + 1 = 2$ decimal places: 10.81.

(b) $2 + 2 = 4$ places: 0.1081.

(c) $0 + 3 = 3$ places: 1.081.

Answer: **(a) 10.81; (b) 0.1081; (c) 1.081**.

Problem 9 Dividing by a Whole Number

(a) $17.5 \div 5 = 3.5$.

(b) $9.36 \div 12 = 0.78$, since $12 \times 0.78 = 9.36$.

Answer: **(a) 3.5; (b) 0.78.**

Problem 10 Quotients That Keep Going

(a) $7.000 \div 8 = 0.875$.

(b) $9.0000 \div 16 = 0.5625$.

Check: $8 \times 0.875 = 7$ and $16 \times 0.5625 = 9$.

Answer: **(a) 0.875; (b) 0.5625.**

Problem 11 Dividing by a Decimal

(a) Multiply by 100: $840 \div 7 = 120$.

(b) Multiply by 10: $45.5 \div 13 = 3.5$.

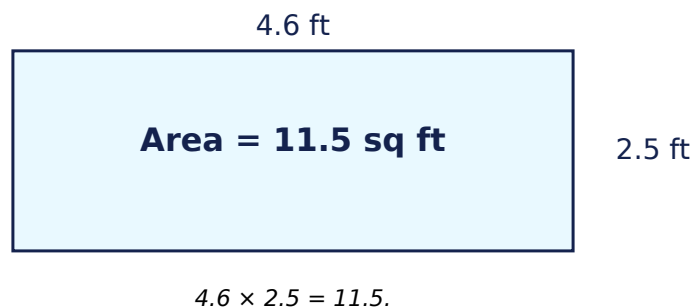
(c) Multiply by 100: $96 \div 8 = 12$.

Answer: **(a) 120; (b) 3.5; (c) 12.**

Problem 12 Garden Bed Area

$46 \times 25 = 1,150$. The factors have 2 decimal places, so the area is $11.50 = 11.5$.

Answer: **11.5 square feet.**



Problem 13 Estimate, Then Multiply

(a) $18.7 \approx 19$ and $4.9 \approx 5$, so $19 \times 5 = 95$.

(b) $187 \times 49 = 9,163$ and two decimal places give 91.63.

Answer: **(a) about 95; (b) 91.63.**

Problem 14 Order of Operations

Multiply first: $3.2 \times 2.5 = 8$. Then $12.5 - 8 = 4.5$.

Answer: **4.5.**

Problem 15 Filling the Tank

Gas: $11.4 \times 3.85 = 43.89$.

Change: $50 - 43.89 = 6.11$.

Answer: **\$43.89 for gas and \$6.11 in change.**

Problem 16 Grocery Receipt

$3.89 + 2.75 = 6.64$; $6.64 + 1.95 = 8.59$; $8.59 + 5.49 = 14.08$.

Change: $20 - 14.08 = 5.92$.

Answer: **total \$14.08, change \$5.92.**

Milk	\$3.89
Bread	\$2.75
3 apples at \$0.65	\$1.95
Cheese	\$5.49
Total	\$14.08

Total of the four items.

Problem 17 Jogging Speed

(a) $3.6 \div 0.75 = 360 \div 75 = 4.8$.

(b) $4.8 \times 1.5 = 7.2$.

Answer: **(a) 4.8 miles per hour; (b) 7.2 miles.**

Problem 18 Cutting Trim

$$12.6 \div 0.45 = 1,260 \div 45 = 28.$$

$$\text{Check: } 0.45 \times 28 = 12.6.$$

Answer: **28 pieces.**

Problem 19 Taxi Fares

$$(a) 2.50 \times 8.4 = 21, \text{ and } 3.50 + 21 = 24.50.$$

$$(b) 34.50 - 3.50 = 31, \text{ and } 31 \div 2.5 = 12.4.$$

Answer: **(a) \$24.50; (b) 12.4 miles.**

Problem 20 Relay Times

$$(a) 12.45 + 11.9 + 13.05 + 12.6 = 50.$$

$$(b) 50 \div 4 = 12.5.$$

$$(c) 13.05 - 11.9 = 1.15.$$

Answer: **(a) 50 seconds; (b) 12.5 seconds; (c) 1.15 seconds.**