

Grade 6 - Multi-Digit and Decimal Operations - Test Answer Key

Common Core 6.NS.B.2, 6.NS.B.3 · maths-pdf.fr/en/

Use this key to score the decimal operations test out of 20 points. Each solution is fully worked, and the scoring line explains how to award each point and partial credit for correct steps.

Grade 6 · Common Core State Standards: **6.NS.B.2, 6.NS.B.3**

Question 1 - Long division [2 pts]

Use partial quotients.

$$21 \times 300 = 6,300, \text{ remaining } 6,384 - 6,300 = 84.$$

$$21 \times 4 = 84, \text{ remaining } 84 - 84 = 0.$$

Add the partial quotients: 304.

$$\text{Check: } 304 \times 21 = 6,384.$$

304

Scoring: 1 point for a correct method; 1 point for 304.

Question 2 - Add and subtract [2 pts]

$$(a) 14.70 + 8.25 + 0.50 = 23.45.$$

$$(b) 30.00 - 12.46 = 17.54.$$

Scoring: 1 point for each part.

Question 3 - Multiply decimals [2 pts]

$$3 \times 2 = 6, 3 \times 0.5 = 1.5, 0.4 \times 2 = 0.8, 0.4 \times 0.5 = 0.2.$$

$$6 + 1.5 + 0.8 + 0.2 = 8.5$$

x	2	0.5
3	6	1.5
0.4	0.8	0.2

Sum is 8.5.

Scoring: 1 point for the partial products; 1 point for 8.5.

Question 4 - Divide decimals [2 pts]

(a) $84 \div 6 = 14$.

(b) $360 \div 9 = 40$.

Scoring: 1 point for each part.

Question 5 - Decimal division by a whole number [2 pts]

$15 \times 4.9 = 73.5$.

$73.5 \div 15 = 4.9$.

Scoring: 1 point for a correct method; 1 point for 4.9.

Question 6 - Shopping [2 pts]

$\$6.40 \times 2.5 = \$16.00$.

Scoring: 1 point for the setup; 1 point for \$16.00.

Question 7 - Error analysis [2 pts]

$12 \times 5 = 60$, but the factors have $1 + 1 = 2$ decimal places, so the product is $0.60 = 0.6$.

Scoring: 1 point for the explanation; 1 point for 0.6.

Question 8 - Pizza party [3 pts]

Pizza: $\$12.75 \times 6 = \$76.50$.

Total: $\$76.50 + \$14.50 = \$91.00$.

Per student: $\$91.00 \div 24 = \$3.79$, or about \$3.79.

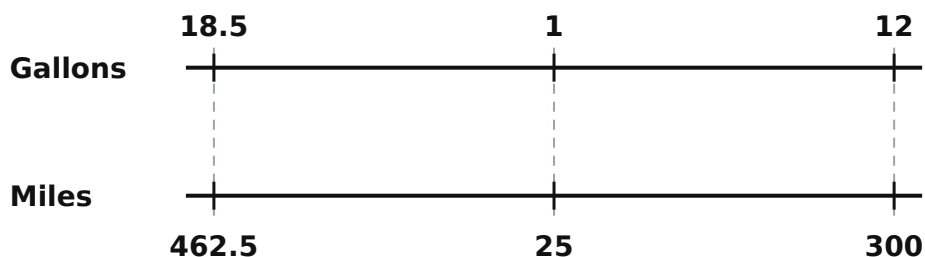
Scoring: 1 point for the pizza cost; 1 point for the total; 1 point for the share.

Question 9 - Fuel efficiency [3 pts]

$462.5 \div 18.5 = 25$: multiply both by 10 to get $4625 \div 185 = 25$.

$25 \times 12 = 300$.

25 miles per gallon; 300 miles.



Unit rate and scaling.

Scoring: 1 point for the division setup; 1 point for 25; 1 point for 300 miles.

Total

20 points