Check Your Answers on Decimal Applications!

1) $43.50

$$\begin{array}{r} 34.00 \\ 8.75 \\ +\ 0.75 \\ \hline \$43.50 \end{array}$$

Addition requires "like terms" which means that tenths must be added to tenths and hundredths to hundredths. In other words, it is necessary to line up the decimal points which will line up the digits with the same place value. Also a whole number does not typically display the decimal point which is understood to be at the end of the number. Place the decimal point and zeros as needed to line up the decimal points.

2) 1.775 ml

$$\begin{array}{r} 1.750 \\ +\ 0.025 \\ \hline 1.775 \end{array}$$

Use zeros for place holders as needed.

3) 33.145 grams

$$\begin{array}{r} 55.845 \\ -\ 22.700 \\ \hline 33.145 \end{array}$$

Subtraction also requires "like terms" which means that tenths must be subtracted from tenths and hundredths from hundredths. In other words, it is necessary to line up the decimal points which will line up the digits with the same place value. Use zeros for place holders if needed.

4) 1.154 million

$$\begin{array}{r} 1.670 \\ -\ 0.516 \\ \hline 1.154 \end{array}$$

Again, line up the decimal points, using zeros as needed.

5) $0.21 per slice

$$\begin{array}{r} 3.50 \\ \times\ 0.06 \\ \hline 0.2100 \end{array}$$

3.50 — 2 digits to the right of the decimal point
0.06 — 2 digits to the right of the decimal point
0.2100 — 4 digits to the right of the decimal point in the answer

Multiplication does **not** require "like terms." It is **not** necessary to line up the decimal points. When multiplying decimals, move the decimal point in the answer by counting the number of digits to the right of the decimal point in the numbers multiplied.

6) 3.768 meters

$$\begin{array}{r} 3.14 \\ \times\ 1.2 \\ \hline 628 \\ 314\ \\ \hline 3.768 \end{array}$$

3.14 — 2 digits to the right of the decimal point
1.2 — 1 digit to the right of the decimal point
3.768 — 3 digits to the right of the decimal point in the answer

Did you really need a calculator for this one?

7) 124 seconds

$6.2 \div 0.05 = 0.05\overline{)6.20.} = 5.\overline{)620.}$ with quotient $124.$

divisor (0.05), *dividend* (6.2), *quotient* (124.)

If there is a decimal in the divisor, multiply by a power of 10 to convert the divisor to a whole number. The dividend must also be multiplied by that same number. Multiplying by a power of ten moves the decimal point in both the divisor and dividend to the right.

8) 4.4 inches per hour

$11 \div 2.5 = 2.5\overline{)11.0.} = 25.\overline{)110.0}$

$$\begin{array}{r} 4.4 \\ 25.\overline{)110.0} \\ -100\ \ \\ \hline 100 \\ -100 \\ \hline 0 \end{array}$$

Use zeros for place holders when necessary.

9) $102.00

$0.204 \times 50 \times 10 = 0.204 \times 500$

The Commutative Property of Multiplication allows you to multiply factors in the order that you choose.

$$\begin{array}{r} 0.204 \\ \times\ 500. \\ \hline 102.000 \end{array}$$

0.204 — 3 digits to the right of the decimal point
500. — 0 digits to the right of the decimal point
102.000 — 3 digits to the right of the decimal point in the answer

10) $0.25

(\$22.50 + \$4.25) − (\$25. + \$25 × 0.06) Recall the order of operations: multiply before adding.

Cost if purchased online — *Cost at local shopping mall*

$$\begin{array}{r} 22.50 \\ +\ 4.25 \\ \hline \$26.75 \end{array}$$

$$\begin{array}{r} 25. \\ \times\ 0.06 \\ \hline 1.50 \end{array}$$

25. — 0 digit to the right of the decimal point
0.06 — 2 digits to the right of the decimal point
1.50 — 2 digits to the right of the decimal point in the answer

$$\begin{array}{r} 25.00 \\ +\ 1.50 \\ \hline \$26.50 \end{array}$$

$$\begin{array}{r} 26.75 \\ -\ 26.50 \\ \hline \$0.25 \end{array}$$