Add Decimals

Find 50.9 + 0.26.

Line up the decimal points

$$\begin{array}{r} 50.90 \\ +\ 0.26 \\ \hline \end{array}$$

Annex a zero so each place has a digit

Add each place

$$\begin{array}{r} 50.90 \\ +\ 0.26 \\ \hline 51.16 \end{array}$$

Practice

1. 746.52 + 2.3= _____
2. 45.1 + 723.2= _____
3. 25.6 + 4= _____
4. 0.25 + 1= _____

Subtract Decimals

Find 20.7 – 0.258.

Line up the decimal points

$$\begin{array}{r} 20.700 \\ -\ 0.258 \\ \hline \end{array}$$

Annex zeros as placeholders.

Subtract each place. Regroup as needed.

$$\begin{array}{r} {\scriptstyle 6\ \not{1}\ 10}\ {\scriptstyle 9} \\ 20.\not{7}\not{0}\not{0} \\ -\ 0.258 \\ \hline 20.442 \end{array}$$

Practice

1. 35.78 – 4.67 = _____
2. 23.058 – 0.26 = _____
3. 85.5 – 0.256 = _____
4. 10.25 – 6.003 = _____

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Multiply Decimals

2.18 → 2 decimal places
X2.5 → 1 decimal places

Count right to left

1090
436
5.450 → 3 decimal places

2 1
0.43 x 0.2 = 0086

Where do you place the decimal point?
0.086

How many places do you have after the decimal point?

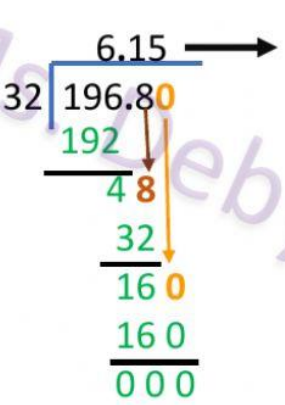
Practice

1. 7.22 x 4.5 = _____
2. 2.08 x 6.2 = _____
3. 9.8 x 7.5 = _____

Divide Decimals Numbers by a whole number

196.8 ÷ 32

Remember first in line is the first in the house



Put the decimal point in the quotient right above

Divide, multiply, subtract

Bring down

Divide, subtract

Annex a 0 to the end

Practice

1. 252.3 ÷ 34 = _____
2. 183.2 ÷ 22 = _____

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Divide Decimals

$2.43 \div 0.5$

Move the decimal in the dividend the same number of places as the divisor

Move the decimal in the divisor to the right (count how many)

Rewrite the long division problem with the decimals in their new homes!

$$\begin{array}{r} 4.86 \\ 5\overline{)24.30} \\ 20 \\ \hline 43 \\ 40 \\ \hline 30 \\ 30 \\ \hline 00 \end{array}$$

Put the decimal in the quotient directly above its knew location

Divide as usual

Practice

1. $28.5 \div 2.3$ _____

2. $48.2 \div 1.2$ _____

3. $36.8 \div 0.3$ _____

Divide Decimals with remainders

$196 \div 32$

Remember first in line is the first in the house

$$\begin{array}{r} 6 \text{ R= } 4 \\ 32\overline{)196} \\ 192 \\ \hline 4 \end{array}$$

Divide, multiply, subtract

Stop when you don't have anymore numbers to bring down

Practice

1. $137 \div 5$ _____

2. $139 \div 6$ _____

3. $479 \div 7$ _____

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Multiply Fractions

Multiply direct

$3 \times \frac{1}{2} = \frac{3}{1} \times \frac{1}{2} = \frac{3}{2}$

The whole number as a fraction is written as

Multiply direct

$\frac{1}{4} \times \frac{2}{3} = \frac{2}{12}$

Convert mixed numbers to fractions

$2\frac{1}{3} \times 5\frac{2}{5} = \frac{7}{3} \times \frac{27}{5} = \frac{189}{15}$

Multiply direct

$\frac{189}{15} = 12\frac{9}{15}$

Practice

1. $2 \times \frac{5}{8} =$ _____

2. $\frac{3}{7} \times \frac{8}{2} =$ _____

3. $3\frac{2}{3} \times 8\frac{5}{6} =$ _____

Divide Fractions

Fish way. Multiply across

$\frac{5}{6} \div \frac{1}{3} = \frac{15}{6} = 2\frac{3}{6}$

Reciprocal way. Switch the numbers.

$\frac{5}{6} \div \frac{1}{3} = \frac{5}{6} \times \frac{3}{1} = \frac{15}{6} = 2\frac{3}{6}$

Change the whole number to a fraction

$14 \div \frac{4}{7} =$

$\frac{14}{1} \div \frac{4}{7} = \frac{98}{4}$

Make the operation using the fish or reciprocal way.

Convert mixed numbers to fractions

$5\frac{1}{3} \div 1\frac{1}{3} =$

Make the operation using the fish or reciprocal way.

$5\frac{1}{3} \div 1\frac{1}{3} = \frac{16}{3} \div \frac{4}{3} = \frac{48}{12} = 4$

Practice

1. $\frac{7}{3} \div \frac{2}{9} =$ _____

2. $16 \div \frac{8}{5} =$ _____

3. $6\frac{5}{4} \div 5\frac{2}{3} =$ _____

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