

2.6 DIVIDING DECIMALS

ESSENTIAL QUESTION:

How do you divide decimals?

EXAMPLE 1

Divide.

1) $7.6 \div 4$

$$\begin{array}{r} 1.9 \\ 4 \overline{) 7.6} \\ \underline{-4} \\ 36 \\ \underline{-36} \\ 0 \end{array}$$

2) $4.38 \div 12$

$$\begin{array}{r} .365 \\ 12 \overline{) 4.380} \\ \underline{-36} \\ 78 \\ \underline{-72} \\ 60 \\ \underline{-60} \\ 0 \end{array}$$

ON YOUR OWN

Divide.

1) $36.4 \div 2$

$$\begin{array}{r} 18.2 \\ 2 \overline{) 36.4} \\ \underline{-2} \\ 16 \\ \underline{-16} \\ 04 \\ \underline{-4} \\ 0 \end{array}$$

2) $22.2 \div 6$

$$\begin{array}{r} 3.7 \\ 6 \overline{) 22.2} \\ \underline{-18} \\ 42 \\ \underline{-42} \\ 0 \end{array}$$

3) $59.64 \div 7$

$$\begin{array}{r} 8.52 \\ 7 \overline{) 59.64} \\ \underline{-56} \\ 36 \\ \underline{-35} \\ 14 \\ \underline{-14} \\ 0 \end{array}$$

4) $43.26 \div 14$

$$\begin{array}{r} 3.09 \\ 14 \overline{) 43.26} \\ \underline{-42} \\ 12 \\ \underline{-0} \\ 126 \\ \underline{-126} \\ 0 \end{array}$$

5) $6.2 \div 4$

$$\begin{array}{r} 1.55 \\ 4 \overline{) 6.20} \\ \underline{-4} \\ 22 \\ \underline{-20} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

6) $3.12 \div 16$

$$\begin{array}{r} .195 \\ 16 \overline{) 3.120} \\ \underline{-16} \\ 152 \\ \underline{-144} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

Dividing Decimals by Whole Numbers

1) Place the decimal point in the quotient above the decimal point in the dividend.

2) Then divide as you would with whole numbers.

3) If there is a remainder write zeros in the dividend as needed and divide until there is no remainder.

EXAMPLE 2

Divide.

1) $18.2 \div 1.4$

$$\begin{array}{r} 13. \\ 1.4 \overline{) 18.2} \\ \underline{-14} \\ 42 \\ \underline{-42} \\ 0 \end{array}$$

2) $0.273 \div 0.39$

$$\begin{array}{r} 0.7 \\ 0.39 \overline{) 0.273} \\ \underline{-0} \\ 273 \\ \underline{-273} \\ 0 \end{array}$$

ON YOUR OWN

Divide.

1) $9.6 \div 1.2$

$$\begin{array}{r} 8. \\ 1.2 \overline{) 9.6} \\ \underline{-96} \\ 0 \end{array}$$

2) $57.8 \div 3.4$

$$\begin{array}{r} 17. \\ 3.4 \overline{) 57.8} \\ \underline{-34} \\ 238 \\ \underline{-238} \\ 0 \end{array}$$

3) $21.643 \div 2.3$

$$\begin{array}{r} 9.41 \\ 2.3 \overline{) 21.643} \\ \underline{-20} \\ 164 \\ \underline{-162} \\ 24 \\ \underline{-23} \\ 143 \\ \underline{-138} \\ 53 \\ \underline{-46} \\ 73 \\ \underline{-72} \\ 13 \\ \underline{-13} \\ 0 \end{array}$$

4) $0.459 \div 0.51$

$$\begin{array}{r} 0.9 \\ 0.51 \overline{) 0.459} \\ \underline{-0} \\ 459 \\ \underline{-459} \\ 0 \end{array}$$

EXAMPLE 3

Divide. $2.45 \div 0.007$

$$\begin{array}{r} 350. \\ 0.007 \overline{) 2.450} \\ \underline{-21} \\ 350 \\ \underline{-350} \\ 0 \end{array}$$

ON YOUR OWN

Divide.

1) $3.8 \div 0.16$

$$\begin{array}{r} 23.75 \\ 0.16 \overline{) 3.8000} \\ \underline{-32} \\ 610 \\ \underline{-48} \\ 1210 \\ \underline{-112} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

2) $15.6 \div 0.78$

$$\begin{array}{r} 20. \\ 0.78 \overline{) 15.60} \\ \underline{-156} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

3) $7.2 \div 0.048$

$$\begin{array}{r} 150. \\ 0.048 \overline{) 7.200} \\ \underline{-48} \\ 240 \\ \underline{-240} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

4) $0.18 \div 0.003$

$$\begin{array}{r} 60. \\ 0.003 \overline{) 0.180} \\ \underline{-18} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

2.6 Dividing Decimals Part 2

Divide Decimals by Decimals

- 1) In the divisor move decimal to the right to get a whole number.
- 2) Move decimal in dividend same number of place values you moved decimal in divisor.
- 3) Then place the decimal point in the quotient above the decimal point in the dividend and divide as you would with whole numbers.
- 4) If there is a remainder write zeros in the dividend as needed and divide until there is no remainder.

EXAMPLE 4

Cookies for a school fundraiser cost \$2.50 per box. The total amount received from the cookie sale is \$1812.50. How many boxes of cookies were sold?

$$\begin{array}{r} 725 \\ 2.50 \overline{) 1812.50} \\ \underline{1750} \\ 625 \\ \underline{500} \\ 1250 \\ \underline{-1250} \\ 0 \end{array}$$

725 boxes of cookies were sold.