

3.6 Decimal Divisors

Use these steps to divide any number by a decimal:

Divide Decimals

divisor 1.4 | 3.64 dividend

→

2.6 quotient
14 | 36.4 dividend

$$\begin{array}{r} 28 \\ \hline 84 \\ 84 \\ \hline 0 \end{array}$$

1. Make the divisor a whole number by moving the decimal point.

2. Move the decimal point in the dividend the same number of places.

3. Divide

4. Line up decimal point in the quotient with decimal point in the dividend.

$3.64 \div 1.4 = 36.4 \div 14 = 2.6$

Example: Move the decimal points in the divisor and in the dividend. Then write the decimal point in the quotient.

1.)
$$23 \overline{) 64.63}$$

2.)
$$0.19 \overline{) 0.1748}$$

3.)
$$0.92 \overline{) 2.8612}$$

$$23 \overline{) 64.63}$$

Example: Divide.

4.) $0.6 \overline{) 9.66}$

$$\begin{array}{r} 16.1 \\ 6 \overline{) 96.6} \\ \underline{-6} \\ 36 \\ \underline{-36} \\ 0 \\ \underline{-0} \\ 0 \end{array}$$

5.) $0.7 \overline{) 8.61}$

$$\begin{array}{r} 12.3 \\ 7 \overline{) 86.1} \\ \underline{-7} \\ 16 \\ \underline{-14} \\ 21 \\ \underline{-21} \\ 0 \end{array}$$

6.) $0.3 \overline{) 6.3}$

$$\begin{array}{r} 21 \\ 3 \overline{) 63} \\ \underline{-6} \\ 03 \\ \underline{-03} \\ 0 \end{array}$$

Example: Divide.

7.) $0.96 \div 0.8$

$$\begin{array}{r} 1.2 \\ 8 \overline{) 9.6} \\ \underline{-8} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$

8.) $0.084 \div 0.3$

$$\begin{array}{r} 0.28 \\ 3 \overline{) 0.84} \\ \underline{-6} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

9.) $391.2 \div 0.4$

$$\begin{array}{r} 978 \\ 4 \overline{) 3912} \\ \underline{-36} \\ 31 \\ \underline{-28} \\ 32 \\ \underline{-32} \\ 0 \end{array}$$

Example: Divide.

$$10.) 0.7725 \div 0.75$$

$$0.75 \overline{) 0.7725}$$

$$\begin{array}{r} 1.03 \\ 75 \overline{) 7725} \\ \underline{-75} \\ 225 \\ \underline{-225} \\ 0 \end{array}$$

$$11.) 1.9216 \div 0.08$$

$$0.08 \overline{) 1.9216}$$

$$\begin{array}{r} 24.02 \\ 8 \overline{) 19216} \\ \underline{-16} \\ 32 \\ \underline{-32} \\ 016 \\ \underline{-16} \\ 0 \end{array}$$

27.) An athletic director orders baseball caps for a team. The total cost is \$25.56. Each cap costs \$2.84. How many caps did the athletic director order?

$$2.84 \overline{) 25.56} \Rightarrow 284 \overline{) 2556}^9$$

$$\begin{array}{r} 9 \\ 284 \overline{) 2556} \\ \underline{-2556} \\ 0 \end{array}$$

9 caps

28.) Miriam sells homemade coconut yogurt to a restaurant for \$5.60 a serving. She make \$44.80 one weekend. How many servings did Miriam sell?

$$5.60 \overline{) 44.80} \Rightarrow 560 \overline{) 4480}^8$$

$$\begin{array}{r} 8 \\ 560 \overline{) 4480} \\ \underline{-4480} \\ 0 \end{array}$$

8 servings