

Unit 17 Dividing Decimals and Writing Fractions as Decimals

1. Division

- A. Division may be thought of as a fraction with the denominator being divided into the numerator.

$$\frac{.49}{.7} \text{ means } .7 \overline{) .49} \quad \text{or} \quad .49 \div .7$$

- B. Division procedures:

Step 3 Copy the decimal straight up into the answer.

Step 1 Move the denominator's decimal to the right.

Step 2 Move the numerator's decimal the same number of places.

Step 4 Divide, ignoring decimals.

$$\begin{array}{r}
 .7 \\
 .7 \overline{) .49} \\
 \underline{49} \\
 0
 \end{array}$$

- C. Examples:

$$8 \overline{) .192}$$

zero as a placeholder

$$\begin{array}{r}
 .024 \\
 8 \overline{) .192} \\
 \underline{0} \\
 19 \\
 \underline{16} \\
 32 \\
 \underline{32} \\
 0
 \end{array}$$

$$.03 \overline{) 15.}$$

zeros as placeholders

$$\begin{array}{r}
 500. \\
 .03 \overline{) 15.00} \\
 \underline{15} \\
 0
 \end{array}$$

2. Writing fractions as decimals

$\frac{1}{4}$ means $1 \div 4$ and

$$\begin{array}{r}
 .25 \\
 4 \overline{) 1.00} \\
 \underline{8} \\
 20 \\
 \underline{20} \\
 0
 \end{array}$$

add zeros

$\frac{1}{3}$ means $1 \div 3$ and

$$\begin{array}{r}
 .33 \\
 3 \overline{) 1.00} \\
 \underline{9} \\
 10 \\
 \underline{9} \\
 1
 \end{array}$$

write $\overline{.3}$

$2\frac{3}{4}$ means $2 + \frac{3}{4}$ and

$ \begin{array}{r} .75 \\ 4 \overline{) 3.00} \\ \underline{28} \\ 20 \\ \underline{20} \\ 0 \end{array} $	$ \begin{array}{r} 2.00 \\ + .75 \\ \hline 2.75 \end{array} $
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