Remembering Long Division

$50 \div 8$ $\qquad$ $\frac{50}{8}$ $\qquad$ $8\overline{)50}$

← WATCH OUT

3 different answers:

D ✓✓✓ M ✓✓ S ✓✓ B ✓✓

$$\begin{array}{r} 6\text{ R. }2 \\ 8\overline{)50} \\ -48 \\ \hline 2 \end{array}$$

6 R. 2

$$\begin{array}{r} 6 \\ 8\overline{)50} \\ -48 \\ \hline 2 \end{array}$$

$6\frac{2}{8} = \boxed{6\frac{1}{4}}$

$$\begin{array}{r} 6.25 \\ 8\overline{)50.00} \\ -48 \downarrow \\ \hline 20 \\ -16 \downarrow \\ \hline 40 \\ -40 \\ \hline \varnothing \end{array}$$

Ex:) $358 \div 9$

$$\begin{array}{r} 39.77 \\ 9\overline{)358.00} \\ -27 \downarrow \\ \hline 88 \\ -81 \downarrow \\ \hline 70 \\ -63 \downarrow \\ \hline 70 \\ -63 \\ \hline 7 \end{array}$$

$\boxed{39.\overline{7}}$

Ex:) $2490 \div 6$

$$\begin{array}{r} 415.\overline{0} \\ 6\overline{)2490.\overline{0}} \\ -24 \downarrow \\ \hline 09 \\ -6 \downarrow \\ \hline 30 \\ -30 \checkmark \\ \hline 0 \\ \cdots \end{array}$$

$\boxed{415} = 415.\overline{0}$

ALL DECIMALS ARE REPEATING

BUT: WHEN 0 IS THE # THAT REPEATS, WE CALL IT A "TERMINATING DECIMAL" B/C IT APPEARS TO STOP.

Ex:) $15386 \div 2$

$$\begin{array}{r} 7693 \\ 2\overline{)15386} \\ -14\downarrow \\ \hline 13 \\ -12\downarrow \\ \hline 18 \\ -18 \\ \hline 06 \\ -6 \\ \hline \emptyset \end{array}$$

Ex:) $251.8 \div 9$

$$\begin{array}{r} 27.977 \\ 9\overline{)251.800} \\ -18\downarrow \\ \hline 71 \\ -63\downarrow \\ \hline 88 \\ -81\downarrow \\ \hline 70 \\ -63 \\ \hline 70 \\ -63 \\ \hline 7 \end{array}$$

$\boxed{27.9\overline{7}}$

Ex:) $83.2 \div 0.4$

$$\begin{array}{r} 208 \\ 4\overline{)832} \\ -8\downarrow \\ \hline 03 \\ -0\downarrow \\ \hline 32 \\ -32 \\ \hline \emptyset \end{array}$$

$$\frac{83.2}{0.4} \times \frac{10}{10}$$ ← 1

Ex:) $15 \div 0.8$

$$\begin{array}{r} 18.75 \\ 8\overline{)150.00} \\ -8\downarrow \\ \hline 70 \\ -64\downarrow \\ \hline 60 \\ -56 \\ \hline 40 \\ -40 \\ \hline \emptyset \end{array}$$