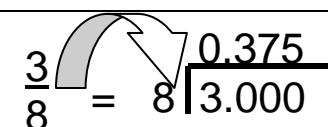# SOL 6.2 – Decimals

Changing: Fractions to Decimals

When the denominator **IS** 10, 100, or 1000.	When the denominator **is NOT** 10, 100, or 1000, but instead a factor of one of them.	When the denominator **is NOT** 10, 100, or 1000
$$\frac{8}{100} = 0.08$$ Notice: the number of zeros in the denominator matches the number of decimal places to the right of the decimal point.	$$\frac{4 \times 2}{5 \times 2} = \frac{8}{10} = 0.8$$ Rename the fraction with the denominator of 10, 100, or 1000 using equivalent fractions.	$$\frac{3}{8} = 8\overline{)3.000}\;\;0.375$$ Divide the numerator by the denominator. Remember that you can add zeros to the dividend.

Changing: Decimals to Fractions
- The place value of the last digit behind the decimal point tells the denominator of the fraction.
- All fractions should be reduced to lowest terms

0.2 is read 2 tenths or $\dfrac{2 \div 2}{10 \div 2} = \dfrac{1}{5}$	0.38 is read 38 hundredths or $\dfrac{38}{100}$

Hint: The number of digits to the right of the decimal point matches the number of zeros in the denominator.

Inequalities
- **<** Less than
- **≤** Less than or equal to
- **>** Greater than
- **≥** Greater than or equal to

Comparing and Ordering Decimals

- Two methods – use what works best for you
    1. Line up the decimals and compare and order each place value, starting on the left and working to the right.
    2. Make sure the decimals have the same number of decimal places by adding zeros or the repeating number, then read and compare them as whole numbers.

- ascending - goes up or gets bigger

- Descending - goes down or gets smaller

Practice/Examples

List the following numbers in ascending order: 0.64,   0.675,   0.$\overline{6}$

Method #1	Method #2
0.6 4 0.6 7 5 0.$\overline{6}$ 6	0.6 4 0 ⟶ 640 0.6 7 5 ⟶ 675 0.$\overline{6}$ 6 6 ⟶ 666
• Ones places are the same. • Tenths places are the same. • Hundredths places are different, thus order from least to greatest.	

ANSWER: 0.64,   0.$\overline{6}$,   0.675