<u>Worksheet 1-5: Decimals</u>

**Mixed Numbers:**

**Mixed numbers are formed by a combination of a whole number and a fraction or a decimal.**

**Mixed number in <u>fraction form</u>:** $3\frac{1}{4}$, $4\frac{6}{7}$

**Mixed number in <u>decimal</u> form:** 3.25, 4.857

**Decimal Fraction:**

Decimal fraction is a fraction (as $0.25 = \frac{25}{100}$ or $0.025 = \frac{25}{1000}$) or mixed number (as $3.025 = 3\frac{25}{1000}$)

in which the **denominator is a power of 10** usually expressed by use of the decimal point.

- Decimal numbers are actually fractions in a different form
- Change from decimals to fractions or vice versa

$$\boxed{478} \; \boxed{abc} \; \boxed{1000}$$
$$\boxed{=}$$

**From Fractions to Decimals: **Use your calculator**

$$\frac{45}{100} = \underline{0.45} \qquad \frac{3}{5} = \underline{0.60} \;/\; 0.6 \qquad \frac{3}{4} = \underline{0.75}$$

**From Decimals to Fractions: ** Divide the numerator by a power of 10)**
**Power of 10: 10, 100, 1000, 10000, ...**

$$0.25 = \underline{\frac{25}{100}} = \frac{1}{4} \qquad 0.478 = \underline{\frac{478}{1000}} = \frac{239}{500} \qquad 0.2 = \underline{\frac{2}{10}} = \frac{1}{5}$$

Write $\frac{1}{3}$ as a decimal. $\frac{1}{3} = 0.333333....$

**Thinking:** Is $\frac{1}{3}$ a decimal fraction? ✗

## <u>Rounding Numbers and Decimals</u>

Numbers and Decimals have special name for each digit

Thousands     tens one

**4 3 2 1**

Hundreds    ten-thousandth
hundredth

**0 . 1 2 3 4**

tenth      Thousandth

**Rounding Numbers:**

Check the **digit after your target place value**. Round **up** if that digit is **greater than or equal to 5**.

**Practice:**

1. Round 26385 to the nearest tens.    26390

2. Round 26385 to the nearest hundreds.    26400

3. Round 26385 to the nearest thousands.    26000

                                     1.29735 hundredth

4. Round 26385 to the nearest ten thousands.    = 1.30

         30 000

5. Round 1. 23547 to the nearest tenth or 1 decimal place.

         1.2

6. Round 1. 23547 to the nearest hundredth or 2 decimal places.

         1.24

7. Round 1. 23547 to the nearest thousandth or 3 decimal places.

         1.235

8. Round 1. 23547 to the nearest ten thousandth or 4 decimal places.

         1.2355

## Multiplying and Dividing Decimals    **Use your calculator.

9. Evaluate and round your answers to the nearest tenth.

(a) $1.03 \times 2.48$          (b) $4.5 \times -3.45$          (c) $(-1.23)(-3.45)$

(d) $1.45 \div 0.03$          (e) $-6.75 \div 2.34$          (f) $\dfrac{-31.2}{6.23}$

(g) $\dfrac{42.5}{9.3 + 2.5}$          (h) $\dfrac{-3.25 \times 5.8}{-3.1} + 100$          (i) $3.14 \times -2.1 + (-1.3)$

(g) $\dfrac{42.5}{(9.3+2.5)}$    $\boxed{42.5} \; \boxed{\div} \; \boxed{(} \; \boxed{9.3} \; \boxed{+} \; \boxed{2.5} \; \boxed{)}$

$\boxed{=}$

Make sure you put brackets around numerator and denominator of a fraction before dividing since operations within the numerator or the denominator must be done first following BEDMAS