Rounding Numbers

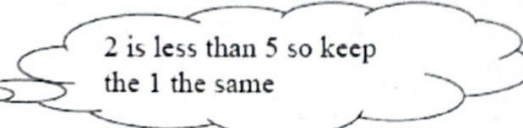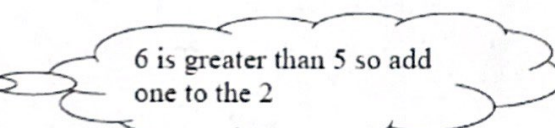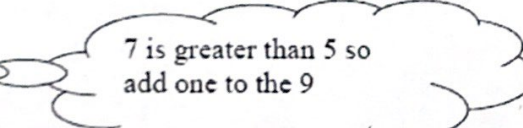**Step 1:** Underline the place value in which you want to round.

Step 2: Look at the number to the right of that place value you want to round.

Step 3: If the number to the right of the place value you want to round is less than 5, keep the number the same and drop all other numbers.

If the number to the right of the place value you want to round is 5 or more, round up and drop the rest of the numbers.

Example: Round the following numbers to the tenths place.

Tenths

1. 23.<u>1</u>246   2 is less than 5 so keep the 1 the same   23.1

2. 64.<u>2</u>685   6 is greater than 5 so add one to the 2   64.3

3. 83.<u>9</u>721   7 is greater than 5 so add one to the 9

$$\begin{array}{r} 1 \\ 83.9721 \\ +\ 1 \\ \hline 84.0 \end{array}$$

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Round the following numbers to the **tenths** place.

1. 18.6231 _____

2. 25.0543 _____

3. 3.9215 _____

4. 36.9913 _____

5. 15.9199 _____

6. 0.2658 _____

7. 100.9158 _____

8. 19.9816 _____

9. 17.1083 _____

10. 0. 6701 _____

Evaluating Expressions

Example
Evaluate the following expression when $x = 5$

Rewrite the expression substituting 5 for the x and simplify.

a. $5x =$ $5(5) = 25$
b. $-2x =$ $-2(5) = -10$
c. $x + 25 =$ $5 + 25 = 30$
d. $5x - 15 =$ $5(5) - 15 = 25 - 15 = 10$
e. $3x + 4 =$ $3(5) + 4 = 19$

Evaluate each expression given that: $x = 5$ $y = -4$ $z = 6$

1. $3x$

2. $2x^2$

3. $3x^2 + y$

4. $2(x + z) - y$

5. $y + 4$

6. $5z - 6$

7. $xy + z$

8. $2x + 3y - z$

Combining Like Terms

What is a **term**? The parts of an algebraic expression that are separated by an addition or subtraction sign are called **terms**.
The expression $4x + 2y - 3$ has 3 terms.

What are **like terms**? Terms with the same variable factors are called **like terms**.
$2n$ and $3n$ are <u>like terms</u>, but $4x$ and $3y$ are <u>not like terms</u> because their variable factors x and y are different.

To simplify an expression, you must combine the like terms.

Examples: Simplify

1. $5x + 8x$
$5x + 8x = (5 + 8)x = \boxed{13x}$

2. $3y - 6y$
$3y - 6y = (3 - 6)y = \boxed{-3y}$

3. $3x + 4 - 2x + 3$
$3x - 2x + 4 + 3 = (3 - 2)x + 4 + 3 = \boxed{x + 7}$

4. $2b + 5c + 3b - 6c$
$2b + 3b + 5c - 6c = (2+3)b + (5 - 6)c = \boxed{5b - c}$

Practice: Simplify each expression

1. $6n + 5n$

2. $25b + 15b$

3. $37z + 4z$

4. $x - 5x$

6. $3n + 1 - 2n + 8$

6. $4f + 5f - 6 + 8$

7. $7t + 9 - 4t + 3$

8. $2k + 4 - 8k - 1$

9. $4r + 3r + 6y - 2y$

10. $8g + 9h - 4g - 5h$

11. $2m + 3n - 4m + 5n$

12. $a + 5b - 2a + 9b$