





8/13/15 

Standards Review



- If Dorian can travel $\frac{1}{2}$ mile per hour, how many inches can he travel in 3 hours?
- Convert 600 dollars per year to nickels per day. (1 dollar = 20 nickels)

Feb 19-9:08 AM

 Today's CCGPS Standards 

SSE.1 Interpret expressions that represent a quantity in terms of its context.
 SSE.1a Interpret parts of an expression, such as terms, factors, and coefficients.

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Algebraic Expression

- Can have variables, numbers, addition, subtraction, multiplication, division, parenthesis, square roots, exponents...
- Examples: $\frac{x-2}{3(x+2)}$
 $-5b+7c-d$
 $\sqrt{5xy}$

none

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Variable

- Symbols or letters used to represent an unknown
- Examples: x
 θ
 β


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Term

- How many items are being added, subtracted, divided
- Examples:
 $5a^2 - 2xy + 3$ **3 terms**
 $\frac{P-2x}{a^2+b}$ **4 terms**

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Like Terms

- Same variable raised to the same power
- Examples:
 $5x^2y$ and $8x^2y$
 $-7y^2$ and $22y^2$

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Coefficient

- The number multiplying to a variable (in front)
- Examples:

$123xy$ **123**

$9xy^3z^2$ **9**

x **1**

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Constant

- A number that has no variable
- It can be positive or negative

- Examples:

-42 **-42**

$3x + 5$ **5**

$5x^2 + 3y^4 - 8$ **-8**

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Factors

- Items that are being multiplied together
- Can be numbers, variables, parenthesis
- Examples:

6 **1 and 6**

$9xy$ **9 and x and y**

$(x + 2)(y - 3)$ **(x + 2) and (y - 3)**

$3(z - 9)$ **3 and (z - 9)**

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Sum

- The answer to an addition problem

Examples

$3 + 5$

$7(4) + 1$

$6 - 3 + 9$

none

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Difference

- The answer to a subtraction problem

Examples

$10 - 4$

$8 - 3(2)$

$7 + 3 - 1$

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Product

- The answer to a multiplication problem

Examples

$8(4)$

$6 \div 3(4)$

$7(4+2)$

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Quotient

- The answer to a division problem

Examples

$$9 \div 3$$

$$7(4) \div 2$$

$$(8+2) \div 5$$

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Example 1: Given the following expression, determine the number of terms, the constants and the coefficients.

$$3x^2 + 4x - 3$$

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Quick Check! Determine the number of terms, the constants, the coefficients.

1. $3x^3 + 4x - 2x + 15$

Terms: _____ Constants: _____

Coefficients: _____

2. $4 - x^3 + 2x^2$

Terms: _____ Constants: _____

Coefficients: _____

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Example 2: Simplify the expression and then identify the number of terms, the constants and the coefficients.

$$2(x + 3) - 4(x + 2)$$

Terms: _____

Constants: _____

Coefficients: _____

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Quick Check! Simplify the expression and then determine the number of terms, the constants, the coefficients.

1. $4(2 + x) + x(2 - 3x) + 9$ (Think about exponent properties here!!)

Terms: _____ Constants: _____

Coefficients: _____

2. $14 - 3(x - 2) + 4(3x + 3)$

Terms: _____ Constants: _____

Coefficients: _____

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Example 3: Identify the factors of the expression.

$$3x^2(x+3)$$

Factors: _____

Quick Check! Identify the factors of the expression.

1. $3(x+2)(x-3)$

Factors: _____

2. $2x^2(4)$

Factors: _____

3. $(x+3)^2(x - 4)$

Factors: _____

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Practice: Interpreting Structure in Expressions

3. $3(x+2) - 7(x^2 - 3) - 12$
 Factors: _____ Terms _____ Constants _____
 Coefficients _____

4. $15x^2 - 7x - 20x^2 + 1$
 Factors: _____ Terms _____ Constants _____
 Coefficients _____

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5. $4(x-2) - 5x + 10$
 Factors: _____ Terms _____ Constants _____
 Coefficients _____

6. $3x^2 - 5x + 4x - 5x^2$
 Factors: _____ Terms _____ Constants _____
 Coefficients _____

7. $12(1+x) + x(15-3x) + 10$
 Factors: _____ Terms _____ Constants _____
 Coefficients _____

8. $(5m + 2n - 6) - (3m - 2n + 4)$
 Factors: _____ Terms _____ Constants _____
 Coefficients _____

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Challenge Problems:

1. $(3m^2 + 9mn + 3n^2) - 6(2n^2 - 5m^2) + 2(12m^2 + 9mn - 3n^2)$
 Factors: _____ Terms _____ Constants _____
 Coefficients _____

2. Create an expression made up of 4 terms, where the first term is a constant, the second term has a coefficient of 4, the third term has 3 factors, and the 4th term is raised to an exponent.

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Homework



Study your notes!!!

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