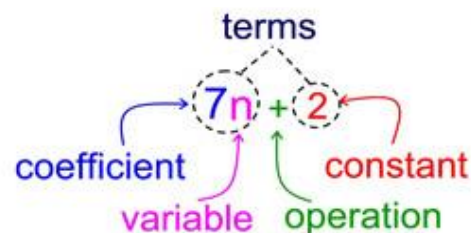


Study Guide for Chapter 6 – Expressions

- ❑ To prepare for this test you should...
 - ❑ review your notes (notes 6.1 – 6.7)
 - ❑ complete the ixl's listed below each to 80+
 - ❑ complete the attached practice test



6.1 Powers and Exponents (ixl [TY5](#), [XDA](#), [HC5](#))

- Identify the base, exponent and power.
- Write a product using an exponent.
 - o $4 \cdot 4 \cdot 4 = 4^3$
- Write a power a a product of the same factor.
 - o $3^4 = 3 \cdot 3 \cdot 3 \cdot 3$
- Write a power in standard form.
 - o $4^2 = 16$

6.2 Order of Operation (ixl [MLU](#))

- PEMDAS
- 1 – Grouping symbols, parentheses, and brackets.
- 2 – Exponents
- 3 – Always Multiply & Divide from left to right.
- 4 – Always Add & Subtract from left to right.
- Simplify: $17 - 2 + 5^2 \div (2 + 3)$
- [Watch Video Tutorial](#)

6.3 Variables and Expressions (ixl [Q8Z](#), [HC9](#))

- When $k = 10$ and $m = 3$
- Evaluate $k^2 \div (2 + m)$

6.4 Write Algebraic Expressions (ixl [CX9](#), [6LQ](#))

- Write a numerical expression
 - o 8 less than 22
 - o the product of 7 and 5
- Write an algebraic expression
 - o a number increased by 4
 - o 3 less than a number
 - o 2 more than twice a number

6.5 Algebra Properties (ixl [JRM](#), [HC8](#))

- Commutative Property
 - o Changing the order doesn't change the answer.
 - o $3 + 4 = 4 + 3$
 - o [Watch Video Tutorial](#)
- Associative Property
 - o Whichever way we group the addends the sum stays the same.
 - o $2 + (4 + 5) = (2 + 4) + 5$
 - o [Watch Video Tutorial](#)

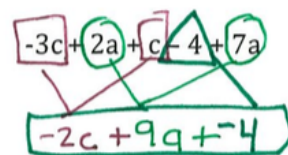
6.6 Distributive Property (ixl [HC8](#), [2HH](#))

- Multiply a sign term by two or more terms inside a set of grouping symbols.
 - o $3(3c + 12) = 9c + 36$
 - o $5(2x + 4y) = 10x + 20y$
- Factoring expressions
 - o $20x + 5 = 5(4x + 1)$
 - o $16x + 10y = 2(8x + 5y)$

6.7 Simplify Expressions (ixl [CN9](#), [KFG](#))

aka Combining Like Terms

- Like Terms are terms that have the same variable raised to the same power.



Important Vocab:

Factor:

Variable:

Like Terms:

Coefficient:

Constant:

Expression:

Product of the factor:

Our Ch 6 test will be on _____ and the completed practice test is due _____.