

# Mathematics CFA Template

## Pre-Instruction

1. List the Standard. Underline the nouns (what students will know) and highlight the verbs (what student will do):

6.EE2 **Write, read, and evaluate** expressions in which letters stand for numbers.

a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract  $y$  from 5" as  $5 - y$ .*

b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression  $2(8 + 7)$  as a product of two factors; view  $(8 + 7)$  as both a single entity and a sum of two terms.*

c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas  $V = s^3$  and  $A = 6s^2$  to find the volume and surface area of a cube with sides of length  $s = 1/2$ .*

## 2. Mathematical Practices

1. Make sense and persevere in solving problems
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

## 3. I Can Statements – Put learning targets in student friendly terms.

I can write expressions for a problem with numbers, and with letters standing for numbers.

I can identify and name the parts of an expression using mathematical terms such as: sum, term, product, factor, quotient, coefficient.

I can recognize one or more parts of an expression as a single entity, or as a sum of factors.

I can evaluate, or solve, expressions that have specific values for their variables, including expressions for real-world problems.

I can perform arithmetic operations involving whole-number exponents using the Order of Operations.

Depth of Knowledge of the standard (Highlight the Level of the Learning Target):

Level 1 Recall; Level 2 – Skill/Concept; Level 3 – Strategic Thinking; Level 4 – Extended Thinking

4. List the skills students need to know in order to begin this standard:

1. Read and understand/make sense of word problems
2. Write and interpret numerical expressions (5.0 A.1,2)
3. Understand patterns and relationships (5.0 A .3)
4. Vocabulary: base, exponent, expression, equation, evaluate

5. What type of assessment am I going to write? [selected response (m/c, t/f, y/n, matching, fill in \_\_\_\_ ) **or** constructed response (**short:** word, phrase, sentence, single problem; **extended:** multi-step operations in math, problem solving)] List the assessment questions.

Solve each problem below then create your own example of each problem set.

Use the variable  $N$  to write an expression for each of the following real world situations:

The temperature went up by 5 degrees

The pizza was divided into 12 parts

36 is reduced by  $N$

$N$  is increased by 14

Evaluate(Solve) the following expression using the order of operations:

$3x + 2y$  when  $x = 3$  and  $y = 4$

Evaluate(Solve) the following expression:

It costs \$150 to rent the skating rink plus \$7.00 per person. What is the cost for 25 people?

Provide a base and an exponent for the following expressions:

$2 \times 2 \times 2 \times 2$

$Z \cdot Z \cdot Z$

6. Scoring Guide

**Exceeds Expectations:** Student answered 8 out of 8 problems and able to create their own examples of each skill.

**Proficient:** Student answered 8 out of 8 problems

**Approaching Proficiency:** Student answered 6 out of 8 problems

**Not Proficient:** Student answered less than 6.



Name: \_\_\_\_\_

### 6.EE.3 – Formative Assessment

**Direction: Solve each problem below then create your own example of each problem set.**

1. Use the variable  $Y$  to write an expression for each of the following real world situations:

- A. The cost went up by 12 dollars
- B. The pie was divided into 8 parts
- C. 213 is reduced by  $Y$
- D.  $Y$  is increased by 86

2. Evaluate(Solve) the following expression using the order of operations:

$$7.6x + 4y \text{ when } x=9 \text{ and } y=5$$

3. Evaluate(Solve) the following expression:

It costs \$225 to rent the skating rink plus \$12.00 per person. What is the cost for 32 people?

4. Provide a base and an exponent for the following expressions:

- A.  $5 \times 5 \times 5 \times 5 \times 5 \times 5$
- B.  $Y \cdot Y \cdot Y$

Name: \_\_\_\_\_

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4. Provide a base and an exponent for the following expressions:

- A.  $5 \times 5 \times 5 \times 5 \times 5 \times 5$
- B.  $Y \cdot Y \cdot Y$