Power Standard 5
Practice Test

1) **Variable**

a. A symbol or letter that is used to represent a number.
b. A symbol that is used to represent another symbol.
c. A number that is used to represent a symbol.

2) **Expression**

a. A mathematical phrase that combines variables and symbols.
b. A mathematical phrase that combines operations, numbers, symbols (but no equal sign), and in some cases variables.
c. A mathematical phrase that combines operations, numbers, symbols (including an equal sign), and in some cases a variable.

3) **Equation**

a. A mathematical phrase that combines operations, numbers, symbols (including an equal sign), and in some cases a variable.
b. A mathematical phrase that combines operations, numbers, symbols (but no equal sign), and in some cases variables.
c. A mathematical phrase that combines variables and symbols.

4) **PEMDAS**

a. An acronym that states the correct order of operation: parentheses, exponents, multiply, divide, add, subtract.
b. An acronym that states the correct order of operation: parentheses, expressions, multiple or divide, add or symbol.
c. An acronym that states the correct order of operation: parentheses, exponents, multiply or divide, add or subtract.

5) **Exponent**

a. A number that tells how many times the base is to be multiplied (example: $4^3 = 4 \times 4 \times 4$).
b. A number that tells what to multiply the base with (example: $4^3 = 4 \times 3$)
c. A number that tells how many times the base is to be divided (example: $4^3 = 4 \div 4 \div 4$).

6) 8 + 7 x 7 =

7) 10 - 20 ÷ 4 − 1 =

8) 3 x 3 − 2 x 1 =

9) 6 + 15 ÷ (6 − 3) =

10) 7 + (55 − 5) ÷ 2 =

11) $(14 − 2) \times (8 + 4)^2 ÷ 4 =$

12) Sue thinks that **a** in the problem below equals **70**. What did Sue do wrong? Explain.

6 + 4 x 7 = a

13) Neil thinks that **Y** in the problem below equals **19**. What did Neil do wrong? Explain.

$5^2 + 4^2 + 1 = Y$

14) Mrs. Crumling thinks that the **x** in the problem below equals **60**. What did Mrs. Crumling do wrong? Explain.

7 x (9 − 3) = x

15) Four students simplify the expressions: **8 ÷ 2 x 6 ÷ 2**

Jill's solution is .333, Don's solution is 12, Steve's solution is .666, and Kim's solution is 20. Who simplified the expression correctly?

a. Jill
b. Don
c. Steve
d. Kim

16) In the expression 4 x (11 + 5), how does having "4 x" in front of the parentheses affect the overall value of the expression?

a. The value is 4 times as large as (11 + 5)
b. The value is 4 times as large as 44
c. The value is 4 times less
d. The value is four more than 16

17) In the expression (5 + 3) ÷ 2, how does having "÷ 2" in back of the parentheses affect the overall value of the expression?

a. The value is 2 more than (5+3)
b. The value is 2 times (5+3)
c. The value is 1/2 of (5+3)
d. The value is 2 less than (5+3)

18) Which numerical expression represents **six less than the quotient of six and two**?

a. (6 ÷ 2) ÷ 3
b. 6 - 2 ÷ 3
c. 6 - 3 ÷ 2
d. (6 ÷ 2) – 6

19) Write an expression that shows **nine times the difference between sixteen and thirteen.**

20) Write an expression that states **divide the product of 10 and 5 by 4.**

21) Write an expression that states **five less than the product of eight and three.**

22) Sue has read five times as many books as John. If **b** represents the number of books John has read, what expression represents the total number of books Sue and John have read altogether? Write the expression.

23) Jen is 8 times older than her brother. If **S** stands for the age of Jen's brother, what expression represents Jen's age? Write the expression.