EXPONENTS

A DEFINITIONS

A.1 WRITING REPEATED MULTIPLICATION IN EXPONENT FORM

Ex 1: Write in exponent form:

$$2 \times 2 \times 2 = \square$$

Ex 2: Write in exponent form:

$$3 \times 3 \times 3 \times 3 = \square$$

Ex 3: Write in exponent form:

$$5 \times 5 = \square$$

Ex 4: Write in exponent form:

$$7 \times 7 \times 7 = \square$$

Ex 5: Write in exponent form:

$$10 \times 10 \times 10 \times 10 \times 10 = \square$$

A.2 WRITING IN EXPONENT FORM FROM VERBAL EXPRESSIONS

Ex 6: Write in exponent form:

$$\text{2 raised to the power 3} = \square$$

Ex 7: Write in exponent form:

$$\text{5 raised to the power 2} = \square$$

Ex 8: Write in exponent form:

$$\text{7 raised to the power 4} = \square$$

Ex 9: Write in exponent form:

$$\text{10 raised to the power 5} = \square$$

A.3 CALCULATING POWERS

Ex 10: Evaluate the power:

$$2^3 = \square$$

Ex 11: Evaluate the power:

$$5^2 = \square$$

Ex 12: Evaluate the power:

$$3^4 = \square$$

Ex 13: Evaluate the power:

$$10^3 = \square$$

A.4 EXPRESSING NUMBERS IN EXPONENT FORM

Ex 14: Write in exponent form:

$$8 = \square$$

Ex 15: Write in exponent form:

$$27 = \square$$

Ex 16: Write in exponent form:

$$16 = \square$$

Ex 17: Write in exponent form:

$$100 = \square$$

A.5 INTERPRETING POWERS

MCQ 18: Determine if the following statement is True or False:

$$2^3 = 2 + 2 + 2$$

☐ True

☐ False

MCQ 19: Determine if the following statement is True or False:

$$3^2 = 2 \times 2 \times 2$$

☐ True

☐ False

MCQ 20: Determine if the following statement is True or False:

$$4^3 = 4 \times 4 \times 4$$

☐ True

☐ False

MCQ 21: Determine if the following statement is True or False:

$$3 \times 4 = 4 + 4 + 4$$

☐ True

☐ False

MCQ 22: Determine if the following statement is True or False:

$$3^2 = 2 \times 2 \times 2$$

☐ True

☐ False

A.6 EVALUATING EXPRESSIONS WITH POWERS

Ex 23: Evaluate the expression:

$$2^3 \times 3^2 = \square$$

Ex 24: Evaluate the expression:

$$3^2 \times 10^2 = \square$$

Ex 25: Evaluate the expression:

$$6 \times 10^3 = \square$$

Ex 26: Evaluate the expression:

$$2.5 \times 10^2 = \square$$

A.7 CHECKING EQUALITY BETWEEN PRODUCTS AND POWERS

MCQ 27: Determine if the following statement is True or False:

$$2 \times 2 \times 3 \times 3 = 2^4$$

☐ True

☐ False

MCQ 28: Determine if the following statement is True or False:

$$2 \times 2 \times 2 = 3^2$$

☐ True

☐ False

MCQ 29: Determine if the following statement is True or False:

$$2 \times 3 \times 2 \times 3 = 2^2 \times 3^2$$

☐ True

☐ False

MCQ 30: Determine if the following statement is True or False:

$$5 \times 5 \times 5 \times 4 = 5^3 \times 2^2$$

☐ True

☐ False

B ORDER OF OPERATIONS

B.1 EVALUATING EXPRESSIONS WITH EXPONENTS IN 2 STEPS

Ex 31: Evaluate this expression:

$$2 \times 5^2 = \square$$

Ex 32: Evaluate this expression:

$$2^3 - 1 = \square$$

Ex 33: Evaluate this expression:

$$(2+1)^2 = \square$$

Ex 34: Evaluate this expression:

$$2^3 \div 4 = \square$$

Ex 35: Evaluate this expression:

$$(5-2)^2 = \square$$

B.2 EVALUATING EXPRESSIONS WITH EXPONENTS IN 3 STEPS

Ex 36: Evaluate this expression:

$$2^3 \times (8-6) = \square$$

Ex 37: Evaluate this expression:

$$(2+1)^2 - 1 = \square$$

Ex 38: Evaluate this expression:

$$(3^2 - 1) \times 4 = \square$$

Ex 39: Evaluate this expression:

$$\frac{3^2 - 1}{2} = \square$$

B.3 FINDING THE OPERATORS

Ex 40:

$$3^3 \begin{array}{l} \square + \\ \square - \\ \square \times \\ \square \div \end{array} 2^2 = 23$$

Ex 41:

$$2^4 \begin{array}{l} \square + \\ \square - \\ \square \times \\ \square \div \end{array} 3^2 = 144$$

Ex 42:

$$2^3 \begin{array}{l} \square + \\ \square - \\ \square \times \\ \square \div \end{array} 4 = 2$$

Ex 43:

$$(2+1)^2 \begin{array}{l} \square + \\ \square - \\ \square \times \\ \square \div \end{array} 1 = 10$$