MODULE 1: MATH REVIEW, VOCABULARY, AND SYMBOLS

COMPLETION

(1) Complete the following chart:

Fraction	Percentage	Decimal
	7.14%	
		20
1/9		

(2) Complete the following chart:

Fraction	Percentage	Decimal
	25%	
		.1429
1/6		

(3) Round the following numbers to two decimal places:

(a) 313.933 _____

(b) 43.759 _____

(c) 68.865 _____

(4) Round the following numbers to two decimal places:

(a) 927.151 _____

(b) 40.325 _____

(c) 486.486 _____

(5) Solve the following equations, applying the rules of order of operations:

(a) $6 + 2 * 4 * 3 =$ _____

(b) $(6+2)(4 * 3) =$ _____

(c) $6 + 2^2 \sqrt{4} * 3 =$ _____

(d) $6 + (2 * 4 * 3) =$ _____

(e) $6 + (2 * 4)(3) =$ _____

(6) Solve the following equations, applying the rules of order of operations:

(a) $6 + \sqrt{(2)^2 (4)^2} * 3 =$ _____

(b) $(6^2 + 2)(4 * 3) =$ _____

(c) $((6 + 2) * 4)(3) =$ _____

(d) $6+(2)(4)(3) =$ _____

(e) $6+2^2 * 4^2 * 3 =$ _____

(7) Reexpress the following equations, substituting reciprocals for division. Then solve in decimal form.

Equation	Reexpressed in reciprocals	Solution
(a) 3/4 – 2/3 =	_____ =	_____
(b) .982 – 3/8=	_____ =	_____
(c) 1/9 + 6/7 =	_____ =	_____

(8) Reexpress the following equations, substituting reciprocals for division. Then solve in decimal form.

(a) 5/7 + .443 = _____ = _____

(b) 124 + 7/6 = _____= _____

(c) 27 – 3/5 = _____= _____

(9) Rearrange the equation to solve for the indicated unknown.

(a) $24/6 + b = 45$ Solve for *b*: _____

(b) $.25c = 36$ Solve for *c*: _____

(c) $W = X/a + b$ Solve for *a*: _____

(10) Rearrange the equation to solve for the indicated unknown.

(a) $b - 15 = .2$ Solve for *b*: _____

(b) $X = 4/5c + 12$ Solve for *c*: _____

(c) $20 = 70a$ Solve for *a*: _____

(11) Expand the following expressions, using the rules for summation within parentheses and for binomial expansion (Note: Numerals are always constants; thus, *N* is always a constant):

(a) $\sum(X - Y)^2 =$ _____

(b) $\sum(\square\,\square bX) + Y^2 =$ _____

(c) $\sum(X) + \sum aY =$ _____

(12) Expand the following expressions, using the rules for summation within parentheses and for binomial expansion (Note: Numerals are always constants; thus, *N* is always a constant):

(a) $\sum(3X + aY) =$ _____

(b) $\sum(NX) + Y =$ _____

(c) $\sum(XY)^2 - b =$ _____

TRUE/FALSE

1. Another name for a subject is a participant.
2. A summary number for a population is called a statistic.
3. A sample is a subset of a population.
4. The letter *N* indicates the average.
5. A bar over a letter indicates the average.
6. Probability is indicated by the letter *p*.
7. Any number multiplied by its reciprocal yields zero.
8. A negative number times another negative number yields a positive number.
9. The value of $3((2 * 4) - 5)^2$ is 27.
10. If $a = (b - c)d$, then $b = c + ad$.

MULTIPLE-CHOICE

1. You are interested in the average reading achievement test score of the currently enrolled students in Edison Elementary School. The children in Edison Elementary School would be referred to as a

   A. sample.
   B. population.
   C. statistic.
   D. parameter.

2. You are interested in the average reading achievement test score of the currently enrolled students in Edison Elementary School. The average score of just Ms. Grady's class would be referred to as a

   A. sample.
   B. population.
   C. statistic.
   D. parameter.

3. Assume that $q = .25$. What is p?

   A. .25
   B. .75
   C. $(.25)^2$

D. 1/25

4. $X(1/N)$ is equivalent to

A. X/N
B. $N\Sigma X$
C. NX
D. $N(1/X)$

5. Express .78 as a percentage.

A. 0078%
B. .78%
C. 78/100%
D. .0078%

6. Express 2/3 as a decimal.

A. .0023
B. .23
C. .0067
D. .67

7. What is the value of the following series of calculations:

$$2 * 5 + 3 * \sqrt{4}$$

A. 16
B. 20
C. 26
D. 32

8. What is the value of the following series of calculations?

$$1/4 * \sqrt{9} + (3 + 2 * 6)$$

A. 4.5
B. 8.25
C. 15.75
D. 30.75

9. $\Sigma(b)$ =

A. Σb
B. Nb
C. $N\Sigma b$

D. b^2

10. $\Sigma(bX)$ =

A. $b\Sigma X$
B. ΣbX
C. NbX
D. $(bX)^2$

11. Round this number to two decimal places: 19.9682

A. 19
B. 20
C. 19.96
D. 19.97

12. Solve the following expression for X: 3X – X +4 = 12

A. 2
B. 3
C. 4
D. 7/12

13. If you wanted to state the average height of the members of your class, what symbol should you use?

A. M
B. n
C. N
D. X

14. In social sciences, the convention is to round final answers to how many decimal places?

A. 0 (whole numbers)
B. 1
C. 2
D. as many as a standard calculator shows

15. In a series of calculations, which of these is calculated first?

A. values within parentheses
B. squares and square roots
C. multiplication and division

D. addition and subtraction

16. Given the meaning of p and q in statistics, p + q is equal to

A. 0
B. 1
C. p - q
D. There is not enough information to tell.

17. Given the meaning of N in statistics, dividing a number by N will yield what value?

A. 0
B. 1
C. the average
D. the sample size

18. Which of these values is the same as two percent?

A. .02%
B. .20%
C. .2
D. .02

19. If N = 6, then 12 (1/N) + 6 =

A. 1
B. 2
C. 8
D. 12

20. $\Sigma(X)$ =

A. X
B. ΣX
C. $N\Sigma X$
D. X^2