

Brushing up on Basic skills

To get you ready for

Algebra 1

NAME: _____

Directions: Use a pencil and the space provided next to each question to show all work. The purpose of this packet is to give a review of basic skills needed to be successful in Algebra 1.

DO NOT USE A CALCULATOR!!

Items covered in this packet:

- ❖ Integer operations
- ❖ Fraction operations
- ❖ Order of Operations
- ❖ Evaluating expressions
- ❖ Solving Equations
- ❖ Graphing functions & Finding slope

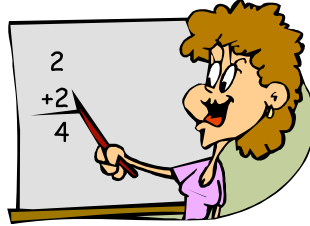
ALL students will be expected to complete this review and will be responsible for the information contained. Teachers will administer a series of quizzes over this material in the first few weeks of school after reviewing in class. Pre AP and AP courses will test over review material within the first few weeks of school. ALL students should receive this review before the end of the previous school year from their math teacher or access a copy online over the summer. Copies of this review and answer keys are posted on the MHS Math Department website. If you find you need help at any time over the summer, visit the MHS Math Department page for a list of video tutorials and practice sites. Visit <http://www.alvinisd.net/domain/1489> or scan the code below.



We can't wait to see you next year!! Hoka Hey!

~MHS Mathematics Department

BRUSHING UP ON BASIC SKILLS FOR STUDENTS ENTERING ALGEBRA 1



WORK THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR. GOOD LUCK!

Integer Operations

Solve.

- 1) $-7 + 10 =$ 2) $-8 + -9 =$ 3) $-4 + 6 - 8 =$ 4) $9 - (-3) + 12 =$
 5) $(-4)(-7)(-1) =$ 6) $-50 \div 5 =$

Fraction Operations

Solve.

- 6) $\frac{1}{3} + \frac{1}{5} =$ 7) $\frac{1}{60} + \frac{1}{5} =$ 8) $\frac{10}{16} + \frac{9}{16} + \frac{12}{16} =$ 9) $-1\frac{1}{4} - \frac{1}{2} =$
 10) $\frac{32}{81} \cdot \frac{9}{8} \cdot \frac{3}{4} =$ 11) $\frac{42}{90} \cdot \frac{7}{12} \cdot \frac{3}{6} =$

hint "cross-reduce"

- Order the following from least to greatest: 12) $40\%, \frac{2}{3}, \frac{1}{8}, .8$ 13) $0.\overline{2}, 1/5, 2\%$

Order of Operations

Solve.

- 14) $(2 + 4^2) - 5 \cdot 3 + 7 =$ 15) $4 \div 2 \cdot 2 + 8 - 4 =$ 16) $[(9-3) \div 3] - 7 =$

Exponents

Write the expression in exponential form:

- 17) $a \cdot a \cdot a \cdot a \cdot a \cdot a \cdot a =$ 18) $(-2)(-k)(-k)(-k)(-k) =$
 19) $(8)(m)(m) =$ 20) $y^3 \cdot y^3 \cdot y$ 21) $(4a^2b)^3$

*Challenge!

- 22*) $\frac{(3a^3bc^2)^2}{18a^2b^3c^4}$ 23*) $\frac{(3y)^0}{6a}$

Name the Greatest Common Factor of:

24) $24a^2b^2$ and $32a^3b$

Find the Greatest Common Factor and Least Common Multiple for the following pairs:

25) 24 and 36

26) 45 and 90

27) 63 and 36

28) 80 and 90

29) Solve the following. These are common squares to know in Algebra.

$13^2 =$

$14^2 =$

$15^2 =$

$16^2 =$

$17^2 =$

$18^2 =$

$19^2 =$

$20^2 =$

Writing equations and inequalities

30) Four less than a number, divided by 3 is nine.

31) Eleven more than a number is greater than or equal to twenty.

32) Two subtracted from a number, times 6 equals 24.

33) Three less than a number is two times the sum of a number and one.

Simplifying Expressions

34) $2(-3x + 5y) + 5(2x + -2y)$

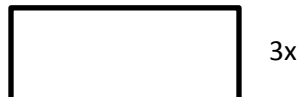
35) $8(r + 15) + 7(2r + 10)$

Use the distributive property to simplify the expressions:

36) $-7(x + 4) =$

37) $x(x - 9) =$

38) Find the perimeter of the figure.



Evaluating Expressions

39) $12x$ when $x = 3$

40) $4x^3$ when $x = 2$

41) Evaluate $(c^2 - b^2)^2 + a^2$ for $a = 5$, $b = 3$, and $c = 2$.

42) $|-7.3|$

43) $-|-25|$

Solving Equations

44) $\frac{x}{2} = 15$

45) $m - (-23) = -17$

46) $y + 15 = 60$

47) $x - \frac{5}{6} = \frac{1}{2}$

48) $-3.2x = 2.56$

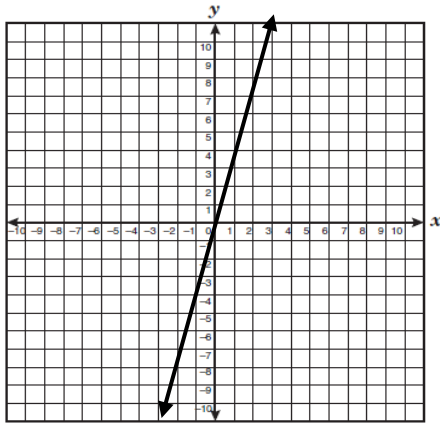
49) $3(x+6) + 4x = -3$

50) $-5(w + 4) = 3(w - 4)$

Graphing and slope

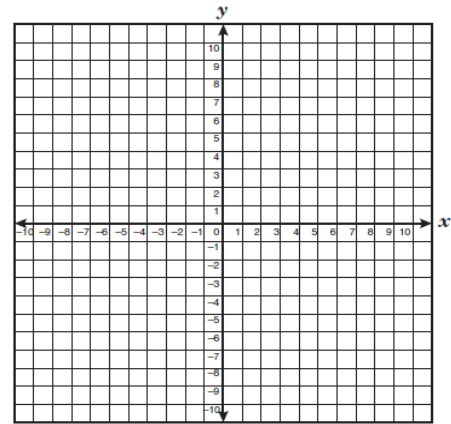


51) Find the slope of the line. $m = \frac{\text{rise}}{\text{run}} = \underline{\hspace{2cm}}$



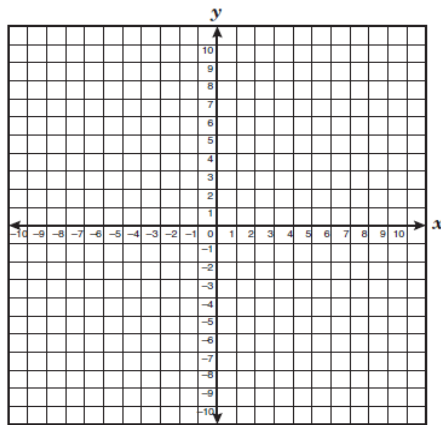
52) Fill in the table and graph $y = -2x + 3$

| X | Process | Y |
|---|---------|---|
| | | |
| | | |
| | | |



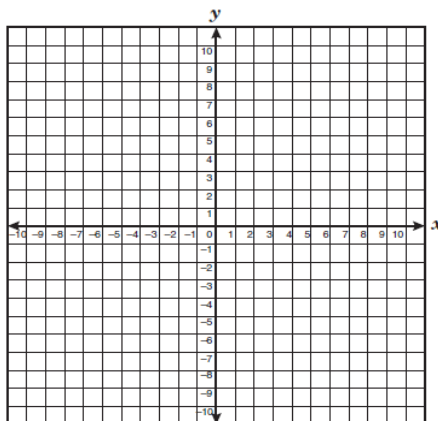
53) Fill in the table and graph $y = \frac{1}{2}x - 2$

| X | Process | Y |
|---|---------|---|
| | | |
| | | |
| | | |



54) Fill in the table and graph $y = -\frac{1}{2}x + 2$

| X | Process | Y |
|---|---------|---|
| | | |
| | | |
| | | |



55) Define the following **math vocabulary**:

Radical-

Rational-

Coefficient-

Variable-

Term-

Slope-

Y-intercept-

Monomial-

Binomial-