REVIEW CHAPTER 1

Name **Key**

Alg 2 Trig G

Date _____

Part I: Evaluate

1) $2 - \left[3 - (5-6)^2 - 2(4 \div 2)^2\right]$

$2 - [3 - 1 - 8]$ $\boxed{8}$

2) $4 - \left[6(10 \div 5)\right]^2 + 4(-2)^3$

$4 - 144 + -32$ $\boxed{-172}$

Part II: Evaluate each expression if x = -1 and y = 0.5

3) $x^2 - y^2$

$(-1)^2 - (.5)^2$ $\boxed{.75}$

4) $-2x^3 - x$

$-2(-1)^3 - 1$

$2 + 1$ $\boxed{3}$

5) $-|2x + y|$

$-|2(-1) + .5|$ $\boxed{-1.5}$

Part III: Simplify each expression

6) $0.1(6a - 40b) - (0.6a - 4b)$

$.6a - 4b - . + 4b$ $\boxed{0}$

7) $-7(2m - 3n) + 4(0.5m - 3n)$

$-14m + 21n + 2m - 12n$ $\boxed{-12m + 9n}$

Part IV: Write an algebraic expression to represent each verbal expression.

8) six more than the product of ten and a number $10n + 6$

9) four times the sum of a number and one is equal to the same number minus two

$4(n+1) = n - 2$

Part V: Write a verbal sentence to represent the equation.

10) $14 - x = 9x$ Fourteen minus a number is equal to the same number times nine

Part VI: Solve each equation.
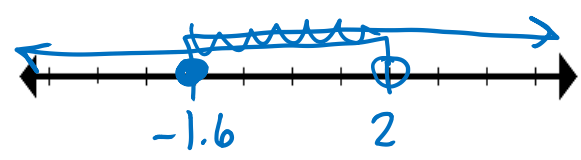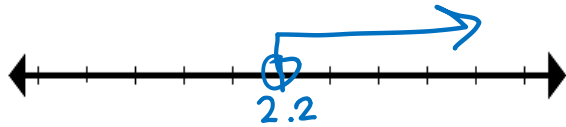
11) $6 - 11h = 28$

$-11h = 22$ $\boxed{h = -2}$

12) $-4(3 - 2x) = -7x + 33$

$-12 + 8x = -7x + 33$

$15x = 45$ $\boxed{x = 3}$

13) $-\dfrac{5}{6}y + 13 = -27$

$-\dfrac{6}{5} \cdot -\dfrac{5}{6}y = -40 \cdot -\dfrac{6}{5}$ $\boxed{y = 48}$
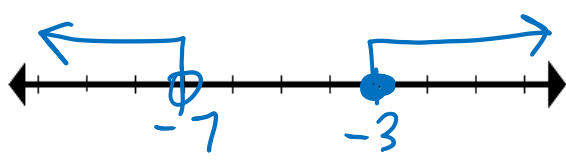
Part VII: Solve and graph each inequality.

14) $2x - 5 > -3(x - 2)$

$2x - 5 > -3x + 6$

$5x > 11$

$\boxed{x > 2.2}$

15) $-11 \le 5x - 3 < 7$

$-11 \le 5x - 3$ $5x - 3 < 7$

$-8 \le 5x$ $5x < 10$

$-1.6 \le x$ $\boxed{x \ge -1.6}$ $\boxed{x < 2}$

16) $9 - 3x \le 18$ or $5x + 1 < -34$

$-3x \le 9$ $5x < -35$

$\boxed{x \ge -3}$ $\boxed{x < -7}$

Part VIII: Solve the absolute value equations (remember 2 cases!)

17) $|x - 1| + 7 = 16$

$|x - 1| = 9$

C1   C2

$x - 1 = 9$ $x - 1 = -9$

$\boxed{x = 10}$ $\boxed{x = -8}$

18) $|2x - 1| = 3x + 2$ (check this one ☺)

C1   C2

$2x - 1 = 3x + 2$ $2x - 1 = -3x - 2$

$-1x = 3$ $5x = -1$

~~$\boxed{x = -3}$~~ $\boxed{x = -\dfrac{1}{5}}$ ✗

CHECK: $|2(-3) - 1| = 3(-3) + 2$ $|2(-1/5) - 1| = 3(-1/5) + 2$

$|-7| = -7$ $|-1.4| = 1.4$

$7 \ne -7$ 😞 $1.4 = 1.4$ ☺

Part IX: Solve and graph the absolute value inequalities (remember 2 cases!)

19) $4|x - 1| > -12$

$|x - 1| > -3$

C1   C2

$x - 1 > -3$ $x - 1 < 3$

$\boxed{x > -2}$ $\boxed{x < 4}$

20) $2|4x - 2| - 3 \le 9$

$2|4x - 2| \le 12$

$|4x - 2| \le 6$

C1   C2

$4x - 2 \le 6$ $4x - 2 \ge -6$

$4x \le 8$ $4x \ge -4$

$\boxed{x \le 2}$ $\boxed{x \ge -1}$