Algebra 2 Quiz 1 Review

Name: Key Date: _____ Hour: _____

Solve each equation.

1) 6x - 5 = 3(x + 2)

$6x - 5 = 3x + 6$

$3x = 11$

$\boxed{x = 11/3 \text{ or } 3.67}$

2) 4w + 10 = 6w - 13

$23 = 2w$

$\boxed{11.5 = w}$

3) 2k - 3m = 16, solve for k

$2k = 3m + 16$

$\boxed{k = 3/2\,m + 8}$ or $\boxed{k = \frac{3m+16}{2}}$

4) A = 0.5h(a + b), for h

$\frac{A}{0.5(a+b)} = h$

$\boxed{\frac{A}{0.5(a+b)} = h}$

5) |x + 5| = 12

$x + 5 = 12$ $\quad$ $x + 5 = -12$

$\boxed{x = 7}$ $\quad$ $\boxed{x = -17}$

6) $\frac{4|x - 6|}{4} = 16$ $\quad$ $|x - 6| = 4$

$x - 6 = 4$ or $x - 6 = -4$

$\boxed{x = 10}$ or $\boxed{x = 2}$

7) |3x + 7| = -15

$\boxed{\text{No Solutions}}$

8) |b + 5| = 2b - 9

$b + 5 = 2b - 9$

$\boxed{14 = b}$ ✓

$b + 5 = -2b + 9$

$3b = 4$

$\cancel{\boxed{b = 4/3}}$ x

State the domain and range of each relation. Then, determine whether the relation is a function. If it is a function, determine if it is one-to-one, onto, both, or neither.

9) {(1,2) (3,4) (5,6) (7,8)}

D: {1, 3, 5, 7}

R: {2, 4, 6, 8}

Function? Yes! (No repeats in domain)

One-to-One? Yes! (No repeats in range)

Onto? Yes! (No extra range values)

10) {(0, 3) (0, 5) (4, 10) (5, 11)}

D: {0, 4, 5}

R: {3, 5, 10, 11}

Function? No!

11) {(-4,1) (3,3) (1,1) (-2, 5) (3, -4)

D: {-4, 3, 1, -2, 3}

R: {1, 3, 1, 5, -4}

Function? No!

12) Find each value if f(x) = -3x + 2

a) f(4)

$-3(4) + 2$

$-12 + 2$

-10

b) f(-3)

$-3(-3) + 2$

$9 + 2$

11

c) f(2w)

$-3(2w) + 2$

$\boxed{-6w + 2}$

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State whether each function is a linear function. If it not a linear function, explain why not.

13) $3x + 4y = 12$

Linear

14) $y = x^3 - 6$

Not Linear (because of x^3)

15) $(1/x) + 3y = -5$

Not Linear (because of $1/x$)

16) The distance the Green family traveled during their family vacation is given by the equation $y = 65x$, where x represents the number of hours spent driving. How far does the Green family travel in 8 hours?

$y = 65(8)$

$y = 520$

Solve each inequality, then graph the solution set on a number line.

17) $-4x < 24$

$\boxed{x < -6}$

18) $4 - 7x \geq 2(x + 3)$

$4 - 7x \geq 2x + 6$

$-9x \geq 2$

$\boxed{x \leq -2/9}$

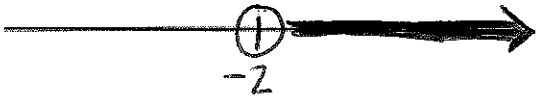
19) $-p - 13 < 3(5 + 4p) - 2$

$-p - 13 < 15 + 12p - 2$

$-p - 13 < 13 + 12p$

$-26 < 13p$

$\boxed{-2 < p \text{ or } p > -2}$



20) $2m - 7 \leq -11$

$2m \leq -4$

$\boxed{m \leq -2}$