Algebra 2 Quiz #1 Review Fall 2018

Quiz #1 covers the following topics/sections:
Solving Literal Equations(Sec 1-3), Functions and Function Notation(2-1), Graphs of Absolute Value Functions(2-5), Function Operations and Composite Functions(7-6), Interval Notation

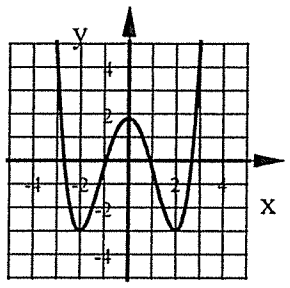
Solve for the stated variable. State restrictions on the variables.

1. Solve for T. $\frac{C+AT}{M} - 7 = W$
2. Solve for K. $E(K+5R) = \frac{C}{N}$
3. Solve for R. $RW + CR = MK$
4. Solve for Q $\frac{7+C}{Q} - E = X$

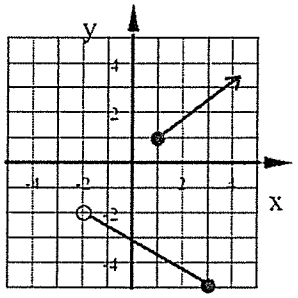
For 5 to 8, does each represent a function?

5. $(4,3),(3,-6),(8,2),(4,1)$
6. $(-1,5),(2,5),(3,9),(-7,0)$

7.



8.

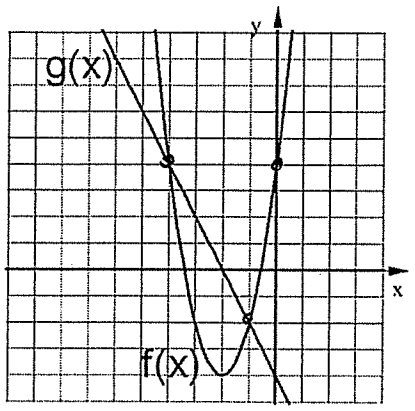


9. State the Domain and Range of the relation in Problem 5.
10. State the Domain and Range of the given problem using interval notation.

a) Problem 7. b) Problem 8.

11. Use the graphs of $f(x)$ and $g(x)$ shown below to answer each question. Use interval notation when applicable.

$f(x) = 2x^2 + 8x + 4$ $g(x) = -2x - 4$



a) $f(x) = g(x)$ b) $f(x) > g(x)$ c) $g(x) \geq f(x)$

Use these functions for the 12-22:

$f(x) = x - 3$ $g(x) = 4x + 7$ $h(x) = \frac{2x-1}{x+6}$ $k(x) = x^2 - 2x$ $m(x) = x^2 + 2x - 15$

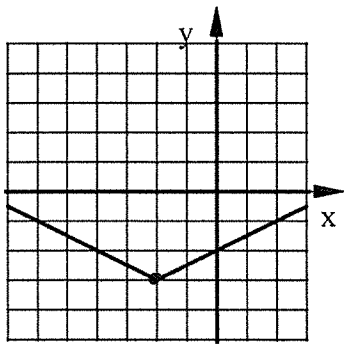
12. Find $5f(7) - 3g(4)$
13. Find $2h(-5) - 4g(-3)$
14. Find $g(h(2))$
15. Find $(f \circ k)(-5)$
16. Find $k(h(7))$
17. Find $k(f(x))$. Simplify as much as possible.
18. Find $(h \circ g)(x)$. Simplify as much as possible.
19. Find $g(h(x))$. Simplify as much as possible.
20. Find $(g \cdot k)(x)$ Simplify and state the domain.
21. Find $(k - m)(x)$ Simplify and state the domain.
22. $\left(\frac{f}{m}\right)(x)$ Simplify and state the domain.

23. Graph each absolute value function with at least five points.

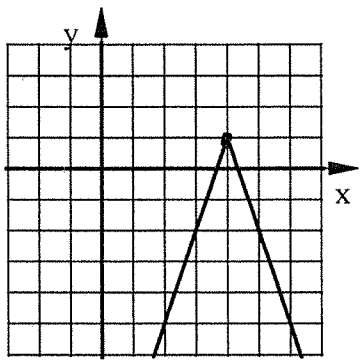
a) $y = -\frac{1}{3}|x-1|+5$ b) $y = 2|x+3|-4$

24. Write the equation of each absolute value function.

a)



b)



Algebra 2 Quiz #1 Review ANSWERS Fall 2018

1. $T = \frac{M(W+7)-C}{A}$ $A, M \neq 0$ 2. $K = \frac{C}{NE} - 5R$ *or* $K = \frac{\frac{C}{N} - 5ER}{E}$ $N, E \neq 0$

3. $R = \frac{MK}{W+C}$ $W + C \neq 0$ 4. $\frac{7+C}{X+E}$ $X + E \neq 0, Q \neq 0$

5. No 6. Yes 7. Yes 8. No

9. Domain: $\{3,4,8\}$ Range: $\{-6,1,2,3\}$

10. a) Domain: $(-\infty,\infty)$ Range: $[-3,\infty)$ b) Domain: $(-2,\infty)$ Range: $[-5,-2) \cup [1,\infty)$

11. a) $x = -4,-1$ b) $(-\infty,-4) \cup (-1,\infty)$ c) $[-4,-1]$

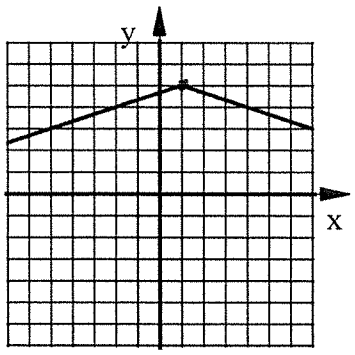
12. -49 13. -2

14. $\frac{17}{2} = 8.5$ 15. 32 16. -1 17 $x^2 - 8x + 15$

18. $\frac{8x+13}{4x+13}$ 19. $\frac{15x+38}{x+6}$ 20. $4x^3 - x^2 - 14x$ *Domain* : $(-\infty,\infty)$

21. $-4x + 15$ *Domain* : $(-\infty,\infty)$ 22. $\frac{1}{x+5}$ *Domain* : $x \neq -5,3$

23 a)



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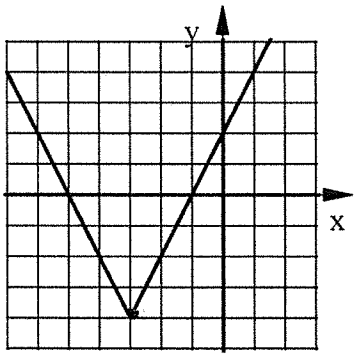

24. a) $y = \frac{1}{2}|x+2|-3$ b) $y = -3|x-4|+1$