Honors Algebra 1 Unit 3 Test Review *(Lessons 1-14)*

Solve the following equations for x. State any excluded values where necessary.

1. $2x-5=-43$

2. $-5(x+2)=3-x$

3. $\frac{x}{5}=\frac{x+6}{10}$

4. $-93=2(6x+1)+1$

5. $\frac{x-1}{x+5}=\frac{2}{7}$

6. $\frac{-x+4}{x-4}=3$

7. $\frac{x}{5}-\frac{2x}{3}=4$

8. $5\left[2-3(4+2x)\right]=-2(x-3)$

9. $\frac{x}{2}+\frac{3}{8}=\frac{3x}{4}-1$

10. $\frac{1}{3}(6x+15)-2=2(x+1)+1$

Solve using the zero product property.

11. $(4x + 8)(x - 7) = 0$

12. $2x(3x - 1) = 0$

Solve the following absolute value equations.

13. $|-8 + n| = 16$

14. $2|x + 7| - 3 = -9$

15. $9\left|\frac{p}{6}\right| + 2 = 5$

16. $4|3 - 2y| = 52$

Solve and write your answer in <u>interval notation</u>. Then graph your solution.

17. $x+7<-3$

18. $-3(x+4) \leq 6$

19. $17 > 2x + 1$

20. $4 - x \geq 5x - 2$

Solve each equation for *y*.

21. $4x - 6y = 18$

22. $\frac{2y}{w} + 3 = f$

23. Write the reason that supports each step of the following proof.

$\frac{2(3(x+6)-18)}{6} = 7$	Original Statement
$2(3(x+6)-18) = 42$	
$2(3x+18-18) = 42$	
$2(3x) = 42$	
$6x = 42$	
$x = 7$	

Answer Key

1. $x=-19$	2. $x=-\frac{13}{4}$	3. $x=6$	4. $x=-8$
5. $x=\frac{17}{5}$	6. No solution	7. $x=-\frac{60}{7}$	8. x = -2
9. $x=\frac{11}{2}$	10. Infinitely many solutions	11. x = -2 or x = 7	12. $x=0 \text{ or } x=\frac{1}{3}$
13. n = 24 or n = -8	14. No solution	15. p = 2 or p = -2	16. y = -5 or y = 8
17. $x<-10$ $(-\infty,-10)$	18. $x\geq -6$ $[-6,\infty)$	19. $x<8$ $(-\infty,8)$	20. $x\leq 1$ $(-\infty,1]$
21. $y=\frac{2}{3}x-3$	22. $y=\frac{wf-3w}{2}$		

23.

$\frac{2(3(x+6)-18)}{6}=7$	Original Statement
$2(3(x+6)-18)=42$	Multiplication Property of Equality
$2(3x+18-18)=42$	Distributive Property
$2(3x)=42$	Combining like terms
$6x=42$	Multiplication (2x3)
$x=7$	Division Property of Equality