**03 - Standard: Solving Equations** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Algebra 1 Final Exam Review

Solve the equations below. Make sure to show all work and check your solutions.

There is a combination of equations that contain the distributive property, rational coefficients, and absolute value.

1. $2\left(3x-1\right)=10$ 2. $3x-\left(2x-1\right)=-6$



3. $\left|2x-3\right|=8$ 4.



5. $-5\left(x-1\right)+2x=2$ 6.

7. $2x-5\left(x+4\right)=-2(x+3)$ 8. $\frac{1}{2}x-4+1=-3-\frac{1}{2}x$

9. 10. $\left|3x+2\right|+4=12$

11. $\left(x+2\right)^{2}=x^{2}-x+6$ 12. $\left(x+3\right)\left(x-1\right)=x^{2}+2x+1$

13. $6+3\left|x – 2\right|=12$ 14. $x\left(x+2\right)=(\frac{1}{2}x+2)(x-3)$



15. 16. $3-2\left|-3x+6\right|=-27$

17. $2x\left(x+1\right)=(2x+2)(x-1)$ 18. $\frac{2}{3}x-3=\frac{1}{2}x-7$

Solve the following equations for the specific variable.

19. Solve for y: 4x + 2y = 6 20. Solve for *x*: –5*x* + 4y = 10

21. Solve for w: $P=2l+2w$ 22. Solve for d: $t=\frac{d}{r}$



23. *Solve for b: t* = *an* + *b* (for *b*) 24.



25. 26.

27. Determine if the statement below is always, sometimes, or never true.  Justify your conclusion.

2(3 + 5*x*) = 6 + 5*x*

******Determine the mistakes in the solutions below. Then correct the mistake and find the correct solution.

28. 29.

30. 31.

32. Rianna thinks that if *a* = *b* and if *c* = *d*, then *a* + *c* = *b* + *d*. Is she correct?

33. Create a multi-step equation that has the specified number of solutions, then solve each of your equations.

*\*\*Make sure to check with your teacher to make sure you set this one correctly because answers will vary\*\**

a. No Solution b. Infinitely Many Solutions c. Two Solutions