

## 2RH Equations and Inequality Review

Name \_\_\_\_\_ Per: \_\_\_\_\_

NO WORK, NO CREDIT. PENCIL ONLY.

**Write AND solve an equation** for each problem. You must show your work! Then **CHECK** Your Work!

- Grandpa just celebrated a birthday at Kneaders and ordered a pumpkin pie for \$12. How old is he if 400 reduced by twice his age is an unknown number?
  - Write the equation. \_\_\_\_\_
  - How old will he be if the number is 244? \_\_\_\_\_
- You played a game of basketball with your friends. You scored a total of 53 points where none were from three point shots. (A basket is good for 2 points and free throw 1 point.)
  - Define your variables \_\_\_\_\_
  - Write an equation. \_\_\_\_\_
  - If you make 23 baskets (2 points each), how many free throws did you make? \_\_\_\_\_
- Alex, Bob and Charlie went to Smith's. Each bought a drink for  $d$  dollars and a two candy bars for  $c$  dollars. All together they spent a total of \$24.
  - Write an equation to represent the situation. \_\_\_\_\_

EC. Find the cost of the drinks and candy bars.
- A 100-point test has "t" true and false questions worth 2 points apiece and "m" multiple choice questions worth 4 points apiece.
  - What do the variables stand for:  $t=$ \_\_\_\_\_  $m=$  \_\_\_\_\_
  - Write an equation that represents the number of questions that may be on the test.  
\_\_\_\_\_

EC. Find the number of true/false and multiple choice questions on the test. SYW.
- While in New Orleans, I noticed that the cost of a cab started at \$2.50 and an additional \$0.75 each half mile. I have \$20 in my pocket, and I am 36 miles from the airport.
  - Can I make it to the airport or how close can I get before the hack kicks me out?
  - How far away am I or how much money would I have left? \_\_\_\_\_ Explain.
- Partners are given the literal inequality  $ax + b > c$  to solve for  $x$ . Joaquin says that he will solve it just like an equation. Serena says that he needs to be careful because if "a" is a negative number, the solution will be different. Who is correct? \_\_\_\_\_ What are the solutions for the inequality?

7. Find the **smallest Integer radicand** (if possible). Give exact **REAL** answers. No decimal answers! ☺

a.  $\sqrt{64 * 2}$       b.  $3\sqrt{70 * 2}$       c.  $\sqrt{\frac{144}{8}}$       d.  $2\sqrt{75} + \sqrt{25} + 1$       e.  $\sqrt[3]{54}$

**Solve for following equations or inequalities**

8.  $-7 + |8 + 8n| = 41$

9.  $-3|-2x + 2| = -12$

10.  $\frac{|5x+9|}{6} = 4$

11.  $-6 = \sqrt{\frac{x}{3}} - 7$

12.  $27 = 9\sqrt{p - 10}$

13.  $12 = 2 + \sqrt{11n + 12}$

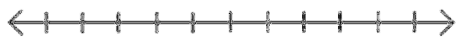
14. Solve for x:  $u = x^2k - y$

15. Solve for x:  $\frac{x^3}{k} = 27\frac{v}{w}$

16. Solve for r:  $2r = -6rs + m$

17. Solve and graph:  $-6(x - 5) > -3(x - 5)$

18. Solve and graph:  $-2(5b - 6) < -5(b + 2) - 7b$



19. Solve for y:  $-2 + 2(y^2 - 5) = 6 + y^2$

20. Solve for y:  $4x - 8y = 10 - 2(y + 2)$

21. Given  $T = 50 + \frac{C-40}{4}$ .

a. Solve for C. \_\_\_\_\_

b. What is T, when C = 0? \_\_\_\_\_

22. Solve for m and describe your steps:  $z = 3(r + m^2)$

23. **Solve and graph** the following inequality:  $10 < 2x + 8 < 16$

