CH 2 Part 1 Practice Test

#1 Simplify the following expressions:

a. $4x + 5x^2 - 8x + 12x^2$

$4x - 8x + 5x^2 + 12x^2$

$-4x + 17x^2$

b. $5c - 2(8 - 3c)$

$5c - 16 + 6c$

$11c - 16$

c. $15 - 3w + 5(2w+3)$

Same As: $15 - 3w + 10w + 15$

$15 + 15 - 3w + 10w$

$30 + 7w$

#2-11, Solve the following equations.

2. $-4x = 12$

$\frac{-4x}{-4} = \frac{12}{-4}$

$x = -3$

3. $b - \frac{4}{5} = \frac{1}{3}$

$\frac{1}{3} \cdot \frac{5}{5} = \frac{5}{15}$ $\quad \frac{4}{5} \cdot \frac{3}{3} = \frac{12}{15}$

$+\frac{4}{5} \quad +\frac{4}{5}$

$b = \frac{17}{15}$ or

4. $3x - 7 = 23$

$+7 \quad +7$

$\frac{3x}{3} = \frac{30}{3}$

$x = 10$

5. $-4 - \frac{x}{9} = -8$

$+4 \quad +4$

$9 \cdot \frac{-x}{9} = -4 \cdot 9$

$-x = -36$

$x = 36$

6. $-10 = -7 + 4 + \frac{1}{2}x + x + 3$

$\frac{-10}{1.5} = \frac{1.5x}{1.5}$

$-6.67 = x$

7. $4(6-2) + 3 = 2(x+1) - x$

$4(4) + 3 = 2x + 2 - x$

$16 + 3$

$19 = x + 2$

$-2 \quad -2$

$17 = x$

8. $-7w + 10 - 4w + 8 = 15$

(on same side)

$-11w + 18 = 15$

$-18 \quad -18$

$\frac{-11w}{-11} = \frac{-3}{-11}$

$w = \frac{3}{11}$ or .27

9. $\frac{2 - 3r}{7} = 8 \cdot 7$

$2 - 3r = 56$

$-2 \quad -2$

$-3r = 54$

$\frac{-3r}{-3} = \frac{54}{-3}$

$r = -18$

10. $-5(k + 3) = 2(3k - 9)$

$-5k - 15 = 6k - 18$

$+5k \quad +5k$

$-15 = 11k - 18$

$+18 \quad +18$

$\frac{3}{11} = \frac{11k}{11}$

$\frac{3}{11}$ or .27 $= k$

11. $9x - 8 + 3x = 14x + 10 - 2x$

$12x - 8 = 12x + 10$

$-12x \quad -12x$

$-8 = 10$

$\emptyset$ OR no solutions

#12-14, Solve for the indicated variable.

12. $Prt + 3 = I$ for r

$-3 \quad -3$

$\frac{Prt}{Pt} = \frac{I - 3}{Pt}$

$r = \frac{I-3}{Pt}$ or $(I-3) \div Pt$

13. $2w + 2L = P$ for w

$-2L \quad -2L$

$\frac{2w}{2} = \frac{P - 2L}{2}$

$w = \frac{P-2L}{2}$

14. $\frac{V}{1} = \frac{d}{t}$ for t

$\frac{Vt}{V} = \frac{d}{V}$

$t = \frac{d}{V}$

#16-18, Solve each inequality AND graph solutions on a number line.

16. $-3x + 5 > 17$

$-5 \quad -5$

$\frac{-3x}{-3} > \frac{12}{-3}$

÷ by negative → flip

$x < -4$

17. $7m + 3 \leq 4m - 12$

$-4m \quad -4m$

$3m + 3 \leq -12$

$-3 \quad -3$

$\frac{3m}{3} \leq \frac{-15}{3}$

$m \leq -5$

18. $-\frac{3}{5}w < 6$

$\frac{-3}{5} \quad \frac{-3}{5}$

Sign flip →

$w > -10$

$6 \cdot \frac{5}{3} = \frac{30}{3}$

#19-20, Solve each proportion.

19. $\frac{3}{7} = \frac{w}{11}$

$\frac{33}{7} = \frac{7w}{7}$

4.71

$w = \frac{33}{7}$ or ~~4.71~~

20. $\frac{9}{m+4} = \frac{2}{m}$

$9 \cdot m = 2(m+4)$

$9m = 2m + 8$

$-2m \quad -2m$

$\frac{7m}{7} = \frac{8}{7}$

$m = \frac{8}{7}$ or 1.14

21. The Variable is the letter that represents a number. The number in front of the variable, being multiplied to it, is the coefficient.

22. Write an expression with 2 terms:

Example: $3x + 5$ or $7x^2 + x$

or $17 - 2y$ etc...