Evaluate each using the values given.

1) $(z+x)^2$; use $x=2$, and $z=5$ $(5+2)^2=49$

2) $j+k+j$; use $j=1$, and $k=1$ $1+1+1=3$

Write each as an algebraic expression.Use x to represent "a number"

3) 8 more than a number $8+x$

4) 5 more than 8 divided by a number. $5+\frac{8}{x}$

Evaluate each expression.

5) $4+1+5+1$ 11

6) $\left(\left(\frac{4}{4}\right)(4)\right)(2)$ $(1\cdot 4)(2)=8$

7) $\left(\frac{15}{-5}+-1+6\right)\left(\frac{5}{-5}\right)$ $(-3+-1+6)(-1)$ $(2)(-1)=-2$

8) $(1-(-3-5-(4-2)))(2)$ $(1-(-3-5-(2))(2)$ $(1-(-10)(2)=22$

9) $\frac{14-4}{5-3}$ $=\frac{10}{2}=5$

10) $4\cdot 2(1+2)$ $4\cdot 2(3)$ 24

Simplify each expression.

11) $n+4+7$ $n+11$

12) $-4(p+4)-5p$ $-4p-16-5p$ $-9p-16$

13) $8(5ab-6)-4(7ab-4)$ $40ab-48-28ab+16$ $12ab-32$

14) $2x(4y-3)+6(2xy-4)$ $8xy-6x+12xy-24$ $20xy-6x-24$

Solve each equation. If there is no solution, write no solution.

15. $2|x|-5=1$ $+5\quad +5$ $2|x|=6$ $|x|=3$ $x=3\ /\ -3$

16. $5|x| - 4 = 16$

$5|x| = 20$

$|x| = 4$

$x = \pm 4$

17. $-5n - 8(1 + 7n) = -8$

$-5n - 8 - 56n = -8$

$-61n - 8 = -8$

$-61n = 0$

$n = 0$

18. $5(2x + 6) = -4(-5 - 2x) + 3x$

$10x + 30 = 20 + 8x + 3x$

$10x + 30 = 11x + 20$

$30 = x + 20$

$10 = x$

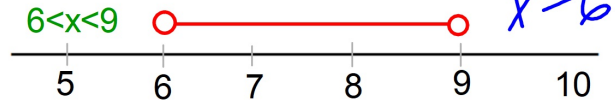
Write an inequality for each graph or statement.

Final Exam Review

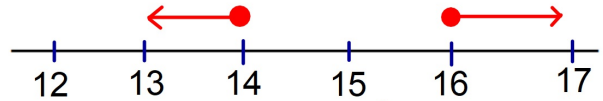
1. $x \geq -3$

2. $6 < x < 9$

$x > 6$ & $x < 9$



3.



$x \leq 14$ or $x \geq 16$

4. There are at least 40 people who want to go to the game. $x \geq 40$

5. He can get no more than 5 wrong in order to keep his A+. $x \leq 5$

6. I can run up to 15 minutes before I need a break. $x \leq 15$

7. Louis can work a maximum of 20 hours per week. $x \leq 20$

8. The speed limit on the freeway is between 45mph and 65mph. $x \geq 45$ & $x \leq 65$ $45 \leq x \leq 65$

9. Amanda must take a minimum of 15 credits to keep her scholarship.

$x \geq 15$

10. Evaluate for $A = -4$, $B = 3$, $C = -5$

$-A + 2B^2 + C^2$

$-(-4) + 2(3)^2 + (-5)^2$

$4 + 18 + 25$

$= 47$

11. Simplify each without a calculator.

a) $10 - 8 + 3 - 2 + 4$

$2 + 3 - 2 + 4 = 7$

$5 \quad 3$

b) $36 \div 9 \cdot 2 \div 4$

$4 \cdot 2 \quad 8 \div 4 = 2$

c) $-8 - -4 = -4$

d) $-3 - 7$ -10

e) $5 - 9$ -4

f) $\frac{24}{-3}$ -8

12.) Simplify.

$4 - 2(H + 5) + 3H - 6 + 4(H - 2)$

$4 - 2H - 10 + 3H - 6 + 4H - 8$

$5H - 20$

13. For each pair of lines determine if they are parallel, perpendicular, or neither.

a) $y = 8x - 1$ $y = -8x + 3$ Neither

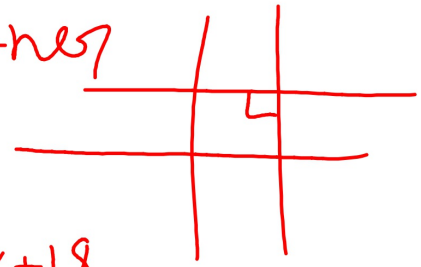
b) $y = -2$ $y = -2x + 5$ Neither

c) $x = 3$ $y = 3$ 0 1

d) $y = 3x + 4$ $3x + 9y = 18$

$9y = -3x + 18$

$y = -\frac{1}{3}x + 2$ 1



14.) Solve.

$10c + 136 = 2c$

$136 = -8c$

$c = -17$

15.) The number of words I type varies directly with the amount of time I type. It takes me 5 minutes to type 210 words.

1. Find the variation constant. Include units.

$K = \frac{210}{5} = 42 \frac{\text{words}}{\text{min}}$ y varies directly with x. $K = \frac{y}{x}$

2. Write a Direct Varation Equation.

$y = 42x$ $y = Kx$

3. Find the amount of time it will take me to type 1000 words.

$1000 = 42x$

$x \approx 23.8$