Linear Test 1 Study Guide
GSE Algebra I

Name: _____

What you need to know and be able to do	Things to Remember	Problem	
1. Identify parts of an expression	**Terms:** Mononomial Binomial Trinomial Polynomial **Degree:** Constant Linear Quadratic Cubic **Coefficient:** Number in front of the variable **Constant:** Number that stands alone	1) $2x^3 - x^2 + 3x - 5$ Name by Term: _____ Name by Degree: _____ Coefficients: _____ Constants: _____	2) $3x + 2$ Name by Term: _____ Name by Degree: _____ Coefficients: _____ Constants: _____
		3) Simplify and Identify $x^2 - 2x + 3x^2 + 14 - 5x + 1$ Name by Term: _____ Name by Degree: _____ Coefficients: _____ Constants: _____	4) Simplify and Identify $-x^3 - 4x - 3x^3 + 6 - 5x$ Name by Term: _____ Name by Degree: _____ Coefficients: _____ Constants: _____
2. Operations with Polynomials	**Addition:** Combine Like Terms **Subtraction:** Distribute the subtraction sign and combine like terms **Multiplying:** Distribute Double Distribution When multiplying variables add exponents	5) $(7k^3 + 3k - 2) + (k^3 - k + 3)$	6) $(2x - 5 + 3x^2) - (6 + 8x - 5x^2)$
		7) $(6x + 7x^3 - 5) - (5x - 3x^3 - 5x^2) + (5x^2 + 5 + 7x^3)$	8) $(x^3 - 8 - 3x) + (6 - 7x^3 - 3x^2) - (5x + 5 - 6x^4)$
		9) $4x(2x + 6)$	10) $(3x + 2)(8x - 1)$
		11) $(6n + 6)(3x + 6)$	12) $(5x - 5)(3x^2 - x - 6)$

3. Solve multi-step equations and inequalities	If variables cancel and left with false statement (4 = 6), then no solution. If true statement (4=6) then infinitely many solutions. Flip the < > sign when multiplying or dividing by a negative	13) $-5(7x-2)=115$	14) -4(2x- 3) = -6x - 12
		15) 3x +12 = 44x + 12 + 3x	16) $8b-3+21b=4(b-7)$
		17) -4x – (2x + 12) > 3x + 6	18) x - 7x – 4 $\geq$ 10
4. Solve literal equations (rearrange formulas)	Isolate the variable Multiply by the denominator when there is a fraction	19) Solve for p if N = $\frac{p}{m}$	20) Solve for W if P = 2(L + W)
		21) Solve for y if $2x + 4y = 8$	22) Solve for C if $F = \frac{9}{5}C + 32$
5. Linear Word Problems	Consecutive integer: use x, x + 1, x + 2, etc Consecutive even **AND** odd: use x, x + 2, x + 4, etc Perimeter: draw rectangle and label sides (let x equal shortest side) Average: add all numbers plus x and divide by number you have	23) find 3 consecutive odd integers that add up to 309. Find the integers. 25) The length of a rectangle is 3 more than twice the width. Find length and width if the perimeter is 48.	24) find 4 consecutive integers that add up to 130, 26) Susie needs to figure out what she needs on her 5th test to make an A in Algebra. Her first four tests were 95, 80, 85, and 90. What does Susie need to make on the 5th test to have at least a 90 in Algebra?