Name_____ Date_____

8A CC Algebra 1 Period_____

Take Home Quiz #8

Show all work where possible

Due:_____

5 Points each

1) Find the sum of $(2x^2 + 8x - 5)$ and $(3x^2 - 5x - 9)$	2) What is the difference when $(3x^2 - 5x + 4)$ is subtracted from $(6x^2 + 9x - 1)$
3) Simplify: $(x - 7)^2$	4) Simplify: $\frac{x^{-3}y^8}{x^{-7}y^4}$
5) Find the value of: $4^{-3} + 8^0 + 9$	6) Divide: $\frac{15x^3 + 9x^2 - 3x}{3x}$
7) Simplify: $(a^2 + 2a - 5) - (4a - 1)$	8) Simplify: $8x^2(2x^2 - 4x + 3)$
9) Factor: $15x^3y - 35x^2y^2 + 30xy^3$	10) Factor: $y^2 - 121$

11) a) The length and width of a rectangle is expressed with the expressions $x^2 + 2x + 4$ and $x - 3$. Find the area.

b) What is the area of the rectangle if $x = 5$ units?

12) a) Draw a box diagram to represent:
$(x + 8)(x - 2)$

b) Find the answer

13) Factor: $x^2 + 3x - 28$

14) Factor **completely**: $6x^2 - 54x + 108$

15) Factor: $3x^2 - 7x + 2$ (Hint: use Tricky Tri)

16) Simplify: $(4x^3)^2$

17) How many solutions does:
$4x + 2 = \frac{1}{2}(8x + 4)$ have? Solve to prove!

18) Solve for x: $4(x - 5) + 7 \leq 35$

19) Factor completely. Explain each step.

$5x^2 - 245$	Type of factoring
1) _____	_____
2) _____	_____

20) The area of a rectangular window frame is $x^2 + 11x + 24$ square inches. The width is $x + 3$ inches.

a) Write an expression in simplest form for the length of the poster board. (Factor to solve)

b) Find the dimensions of the window if $x = 22$.