Act. #55 Sub-Day - Jan. 11th

* Show all work and turn in today.

1. Multiply: $(x+3)^2+5$
2. Multiply: $(x-2)^2-4$
3. Multiply: $(x+4)^2+10$
4. Multiply: $(x-5)^2+10$
5. Multiply: $(x-3)^2+7$
6. Multiply: $(x-4)^2-12$

7. Factor: $x^2-2x-24$
8. Factor: $9x^2-25$
9. Factor: $x^2+3x-70$
10. Factor: $2x^2-5x-12$
11. Factor: $3x^2-14x+15$

12. Find the inverse $f(x)=3x-7$
13. Find the inverse $f(x)=\frac{2x+5}{4}$

Hint: Switch x & y. Solve for y.

14. Multiply: $(2x+3)(x^2-3x+4)$
15. Multiply: $(x-5)(x^2-7x+3)$

16. Solve: $\log_5(2x+5)=2$
17. Solve: $\log_3(-x-4)=3$
18. Solve: $\log_2(2x+7)=4$

Hint: Around the world.

Example:

$\log_5 2x = 3$

$5^3 = 2x$

$125 = 2x$

19. Solve: $\log_7(2x)=3$
20. Solve: $\log_5(x-8)=2$
21. Simplify:

$$\frac{(x+7)}{1}\cdot\frac{x^2+5x+6}{x^2+9x+14}$$

22. $$\frac{m^2-5m-36}{1}\cdot\frac{(x-1)}{x^2-10x+9}$$