Name: _____

Friday Substitute Work

Complete each section of the sheet. Show ALL work. This work will be counted as a FORMAL grade. I have completed the first example for you for each section. Please be on your best behavior for the substitute. Please turn all work into the substitute! Have a great day!

Ms. Donoghue

Part A: Factor by Grouping

1) $8r^3 - 64r^2 + r - 8$

2) $12p^3 - 21p^2 + 28p - 49$

3) $12x^3 + 2x^2 - 30x - 5$

4) $6v^3 - 16v^2 + 21v - 56$

5) $63n^3 + 54n^2 - 105n - 90$

6) $21k^3 - 84k^2 + 15k - 60$

Part B: Factoring Trinomials when a > 1

1) $3p^2 - 2p - 5$

2) $2n^2 + 3n - 9$

3) $3n^2 - 8n + 4$

4) $5n^2 + 19n + 12$

5) $2v^2 + 11v + 5$

6) $2n^2 + 5n + 2$

Part C: Factoring using the Sum and Difference of Cubes

1) $x^3 + 125$

2) $a^3 + 64$

3) $x^3 - 64$

4) $u^3 + 8$

5) $x^3 - 27$

6) $125 - x^3$

Part D: Synthetic Division

Divide.

1) $(r^2 + 6r + 15) \div (r + 5)$

2) $(r^2 + 10r + 13) \div (r + 7)$

3) $(n^3 - 5n^2 - 33n - 37) \div (n - 9)$

4) $(x^3 + 6x^2 - 30x + 102) \div (x + 10)$

5) $(2v^3 - 20v^2 + 56v - 46) \div (v - 6)$

6) $(8r^3 - 49r^2 - 45r - 36) \div (r - 7)$

7) $(m^3 - 20) \div (m - 3)$

8) $(2k^3 - 13k^2 - 77k + 60) \div (k - 10)$

Part E: Adding and Subtracting Rationals

15) $\frac{7n}{n+1} + \frac{8}{n-7}$

16) $\frac{2}{n+8} + \frac{4}{n+1}$

17) $\frac{3}{8} - \frac{3}{3x+4}$

18) $\frac{3}{b-8} + \frac{7}{b+3}$

19) $\frac{3}{x+6} + \frac{7}{x-2}$

20) $\frac{4}{x+1} - \frac{2}{x+2}$

Part F: Inverse Functions: Solve each for the inverse:

1. $f(x) = \sqrt{x-4}$

2. $f(x) = \sqrt{x+5}$

3. $f(x) = \frac{x-3}{7}$

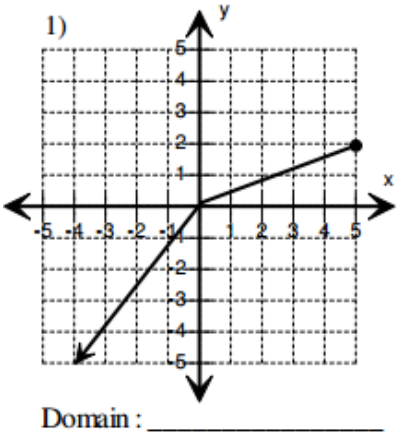
4. $f(x) = 4x + 5$

5. $f(x) = (x+6)^2$

6. $f(x) = \sqrt[3]{x-7}$

Part G: Domain and Range:

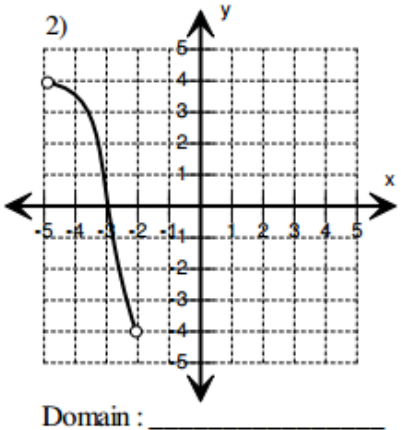
1)



Domain : _____

Range : _____

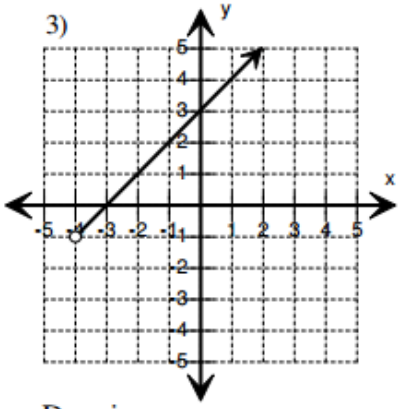
2)



Domain : _____

Range : _____

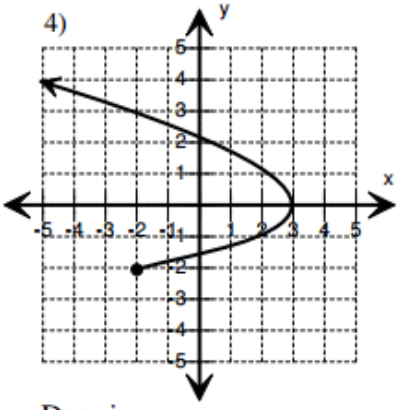
3)



Domain : _____

Range : _____

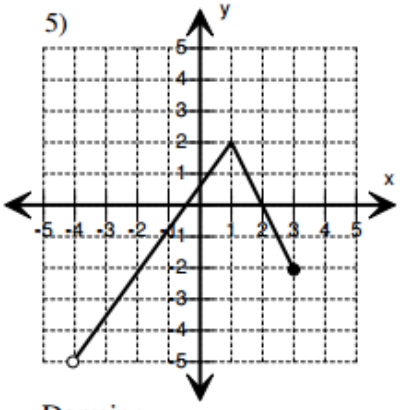
4)



Domain : _____

Range : _____

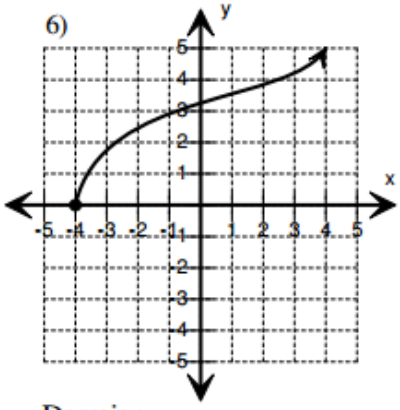
5)



Domain : _____

Range : _____

6)



Domain : _____

Range : _____

Part H: Solving Log Equations:

1. $2\log x + \log 3 = \log 75$

2. $log_5(10x + 5) = 3$

3. $log_7 6x = log_7(x + 15)$

4. $\log_7 64 - \log_7 8x = log_7 40$

5. $\log_3 27 + \log_3 x = 5$