Unit 3 Warm Up

10. Find the end behavior, turning points and state where the graph is increasing or decreasing.

 $y=-x^{3}+3x$

Decreasing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Increasing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Max : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Min: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

End Behavior: $as x\rightarrow \infty , y\rightarrow $

 $as x\rightarrow -\infty , y\rightarrow $

7. Divide the polynomial $\frac{2x^{3}+4x^{2}-5}{x+3}$

8. Divide the polynomial $\frac{x^{3}-4x^{2}+2x+5}{x-2}$

9. Find the equation where the zeros are 3 and -2 (multiplicity of 2).

5. Solve $x^{3}+27=0$

6. Factor $x^{4}-x^{2}-30=0$

4. Solve $5x^{2}+3x+1=0$ using the quadratic formula.

2. Factor $3x^{2}-12x$

3. Solve by factoring: $3x^{2}-16x-7=5$

1. Find the greatest common factor for each number pair
2. 24, 2 GCF:\_\_\_\_\_
3. 20, 40 GCF: \_\_\_\_\_
4. 40, 6 GCF: \_\_\_\_\_
5. 15, 5 GCF: \_\_\_\_\_