Polynomials Bringing It All Together
Name: $\qquad$ A\# $\qquad$
Complete this without the aid of a graphing calculator. One column is provided for you in each problem. Fill in the remainder using the information provided.

| Standard Form | Factored Form | Zeros and Multiplicity | End Behavior | Even or Odd (Explain) | Sketch of Graph |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1. $y=2 x^{3}+3 x^{2}-18 x+8$ | $y=(x-2)(x+4)(2 x-1)$ |  |  |  |  |
| 2. | $y=-x(x-3)^{2}(x+3)^{2}$ |  |  |  |  |
| 3. | Going through the point (1,-4) |  |  |  |  |


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| :---: | :---: | :---: | :---: | :---: | :---: |
| 4. $y=2 x^{4}+8 x^{3}-10 x^{2}$ |  |  |  |  |  |
| 5. | HN: Going through the point (0, -90) | $X=-3$ <br> multiplicity of 2 $x=5$ |  |  |  |
| 6. $y=4-x^{2}$ |  |  |  |  |  |

7. In your own words describe the relationship between factored form, zeros, and graphs of polynomials.
