

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

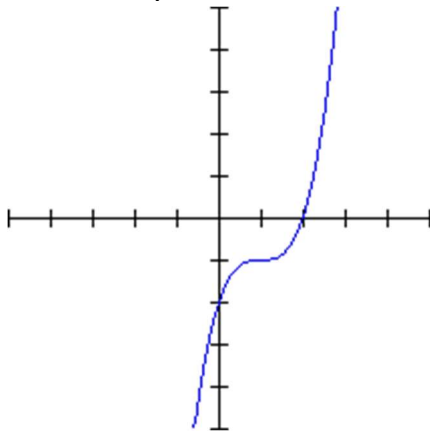
Polynomial (Mini) Quiz 2 **REVIEW!**. Degrees and End Behavior.

Find the degree of the following functions.

1)  $f(x) = 4x^4 + 3x^3 - 2x^2 + 7$  Degree: \_\_\_\_\_

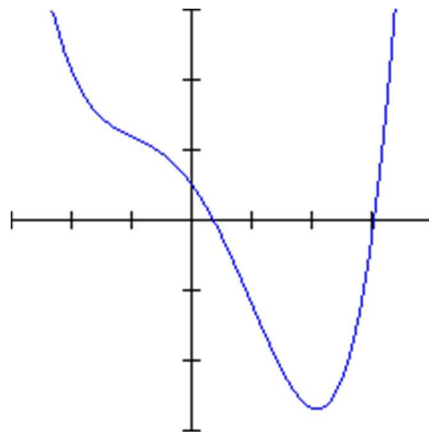
2)  $f(x) = (3x - 4)(2x - 3)$  Degree: \_\_\_\_\_

3) Given the following sketch of a polynomial, which of the following could be the correct equation?



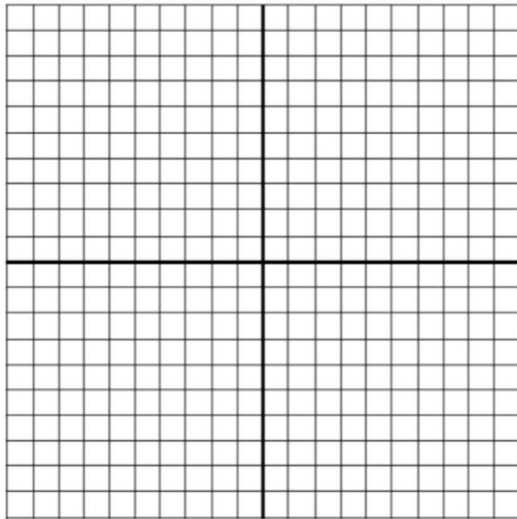
- a)  $f(x) = x^4 - 2x^3 - 24x^2 + 50x - 25$
- b)  $g(x) = x^3 + 5x^2 - 5x$
- c)  $h(x) = -x^6 + x^2 - 25$
- d)  $k(x) = -x^5 - 5x^4 + 3x^2 - x - 0.5$

4) Given the sketch of a polynomial, which of the following best describes the end behavior?



- a) As  $x \rightarrow \infty, f(x) \rightarrow \infty$ ; As  $x \rightarrow -\infty, f(x) \rightarrow \infty$ .
- b) As  $x \rightarrow \infty, f(x) \rightarrow \infty$ ; As  $x \rightarrow -\infty, f(x) \rightarrow -\infty$ .
- c) As  $x \rightarrow \infty, f(x) \rightarrow -\infty$ ; As  $x \rightarrow -\infty, f(x) \rightarrow \infty$ .
- d) As  $x \rightarrow \infty, f(x) \rightarrow -\infty$ ; As  $x \rightarrow -\infty, f(x) \rightarrow -\infty$ .

- 5) Given the equation  $f(x) = (x - 5)(x - 3)(x + 6)$ , sketch the graph. Complete the mathematical sentences below for end behavior.



As  $x \rightarrow \infty$ ,  $f(x) \rightarrow$

As  $x \rightarrow -\infty$ ,  $f(x) \rightarrow$

- 6) Given the equation  $g(x) = -(x + 3)(x - 4)(x - 6)(x - 8)$ , sketch the graph.

