

Advanced Algebra  
6.2 Worksheet Day 2

Name Answers  
Date \_\_\_\_\_ Period \_\_\_\_\_

Describe the end behavior each function.

1.  $y = 3x + 2$

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\quad}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\quad}$

3.  $y = -t^2 + t$

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\quad}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\quad}$

5.  $g(x) = -\frac{1}{2}x^3 + 4x^2 + x - 1$

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\quad}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\quad}$

7.  $y = -7x^8$  *even degree, a is neg*

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{-\infty}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{-\infty}$

2.  $y = 4x^3$

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\quad}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\quad}$

4.  $y = 2x + x^5$  *odd degree, a is pos.*

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{-\infty}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\infty}$

6.  $y = 3x^5 - 4x^4$

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\quad}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\quad}$

8.  $f(x) = \frac{1}{2}x^4 - 2$

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\quad}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\quad}$

9. Use your calculator to approximate the coordinates of the any relative maximums, any relative minimums and determine the end behavior of  $y = .25x^3 - 1.5x^2 + 1.25x + 3$ .

a. Relative Max(s): \_\_\_\_\_

b. Relative Min(s): \_\_\_\_\_

c. Fill in the blanks describing the end behavior of the given graph

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\quad}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\quad}$

10. Use your calculator to approximate the coordinates of the any relative maximums, any relative minimums and determine the end behavior of  $y = .5x^4 + 3x^3 + 1.5x^2 - 5x$ .

a. Relative Max(s):  $(-1.1, 4.1)$

b. Relative Min(s):  $(.57, -1.75)$   
 $(-3.96, -20.0)$

c. Fill in the blanks describing the end behavior of the given graph

as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow \underline{\infty}$

as  $x \rightarrow +\infty$ ,  $f(x) \rightarrow \underline{\infty}$

