CP Algebra 2   Name: _____

Graphing higher order polynomials   Date: _____ Block: _____

Determine the end behavior.
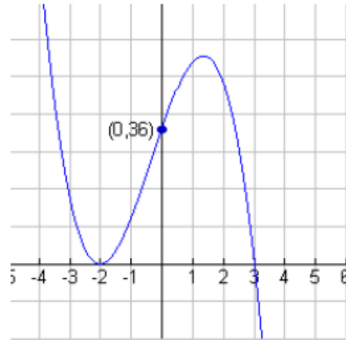
1.

$as\ x \rightarrow -\infty,\ f(x) \rightarrow$_____

$as\ x \rightarrow +\infty,\ f(x) \rightarrow$ _____

2.

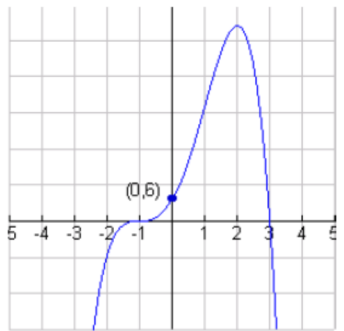$as\ x \rightarrow -\infty,\ f(x) \rightarrow$_____

$as\ x \rightarrow +\infty,\ f(x) \rightarrow$ _____

3.

$as\ x \rightarrow -\infty,\ f(x) \rightarrow$_____
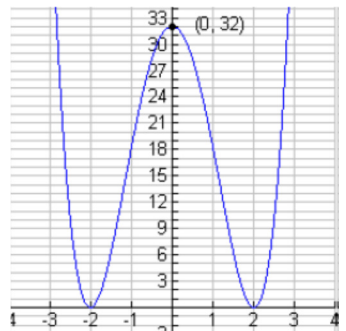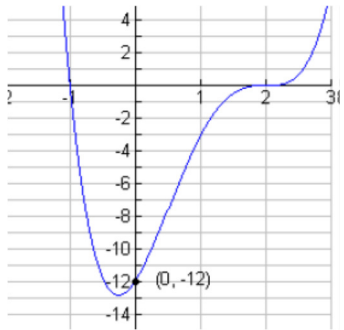
$as\ x \rightarrow +\infty,\ f(x) \rightarrow$ _____

4.

$as\ x \rightarrow -\infty,\ f(x) \rightarrow$_____

$as\ x \rightarrow +\infty,\ f(x) \rightarrow$ _____
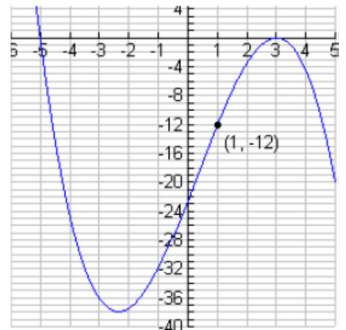
5.

$as\ x \rightarrow -\infty,\ f(x) \rightarrow$_____

$as\ x \rightarrow +\infty,\ f(x) \rightarrow$ _____

6.

$as\ x \rightarrow -\infty,\ f(x) \rightarrow$_____

$as\ x \rightarrow +\infty,\ f(x) \rightarrow$ _____

Graph.

7. $f(x) = x^3 - x^2 - 6x$
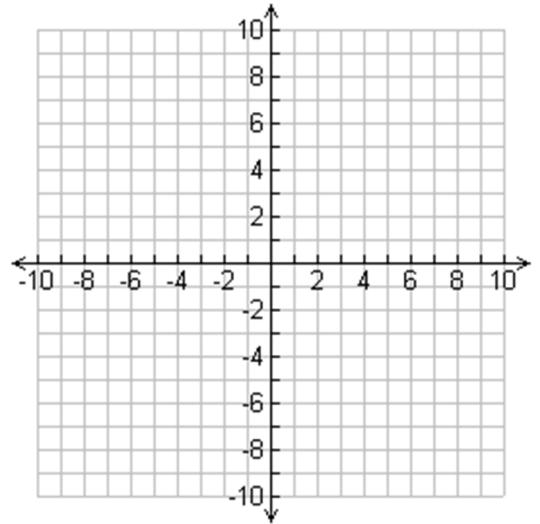
y-intercept: _____

x-intercept (s): _____

_____

_____

_____

_____

$as\ x \to -\infty,\ f(x) \to$_____

$as\ x \to +\infty,\ f(x) \to$_____

8. $f(x) = -x^3 + 2x^2 + 15x$

y-intercept: _____

x-intercept (s): _____

_____

_____

_____

_____

$as\ x \to -\infty,\ f(x) \to$_____

$as\ x \to +\infty,\ f(x) \to$_____

9. $f(x) = x^4 - 13x^2 + 36$

y-intercept: _____

x-intercept (s): _____

_____

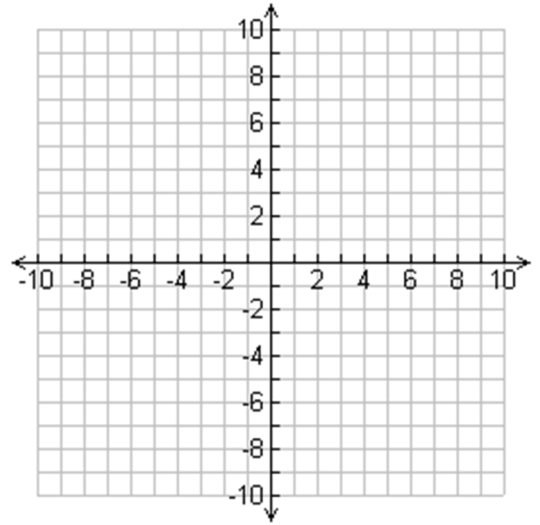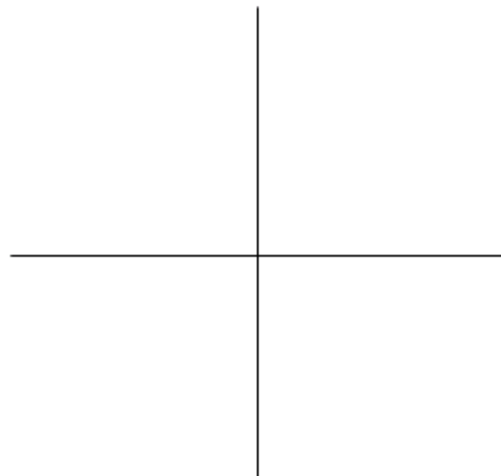_____

_____

_____

as $x \rightarrow -\infty$, $f(x) \rightarrow$_____

as $x \rightarrow +\infty$, $f(x) \rightarrow$_____

10. $f(x) = x^5 - 5x^3 + 4x$
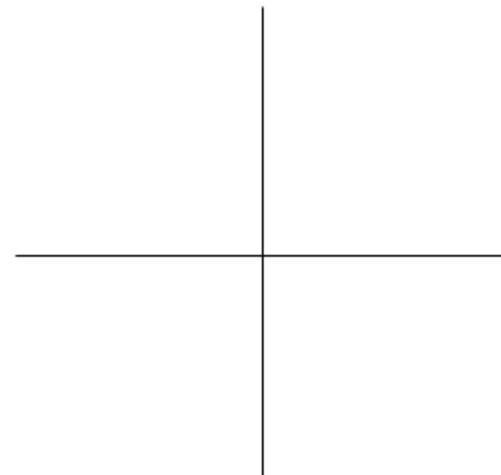
y-intercept: _____

x-intercept (s): _____

_____

_____

_____

_____

as $x \rightarrow -\infty$, $f(x) \rightarrow$_____

as $x \rightarrow +\infty$, $f(x) \rightarrow$_____

11. $f(x) = x^3 + 3x^2 - 4x - 12$
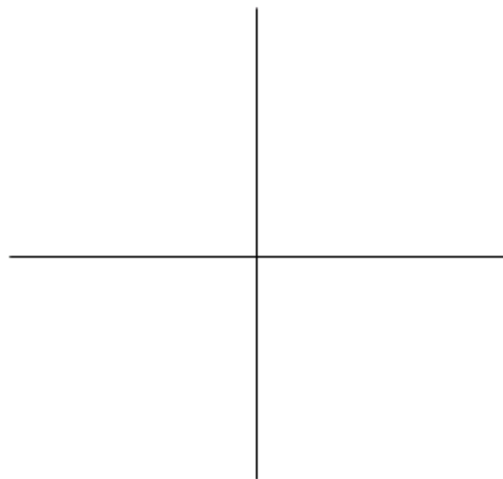
y-intercept: _____

x-intercept (s): _____

_____

_____

_____

_____

$as\ x \to -\infty,\ f(x) \to$ _____

$as\ x \to +\infty,\ f(x) \to$ _____

12. $f(x) = -x^3 - 4x^2 + 4x + 16$

y-intercept: _____

x-intercept (s): _____

_____

_____

_____

_____

$as\ x \to -\infty,\ f(x) \to$ _____

$as\ x \to +\infty,\ f(x) \to$ _____