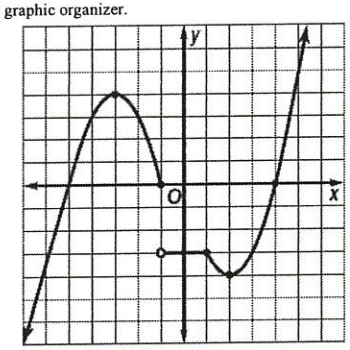
Pre – Calculus
REVIEW unit 1 – Tie It Together

Name Key

Use the graph of $f(x)$ to complete the graphic organizer.



Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$

y – intercept(s): -3
zeros: $-5, -1, 4$

Intervals on which $f(x)$ is:

Increasing	Decreasing	Constant:
$(-\infty, -3) \cup (2, \infty)$	$(-3, -1) \cup (1, 2)$	$(-1, 1)$

End Behavior

$\lim_{x \to \infty} f(x) = \infty$

$\lim_{x \to -\infty} f(x) = -\infty$

[Determine whether $f(x)$ has each of the following characteristics, and find them if applicable.]

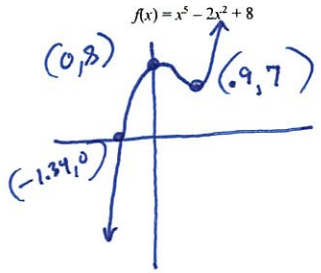
Continuity

- Continuous
- Infinite Discontinuity
- Jump Discontinuity
- Removable Discontinuity

Extrema

Relative maximum	Absolute maximum
$(-3, 4)$	none
Relative minimum	**Absolute minimum**
$(2, -4)$	none

Use the graph of $f(x)$ to complete the graphic organizer.



Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$

y – intercept(s): 8
zeros: -1.34

Intervals on which $f(x)$ is:

Increasing	Decreasing	Constant:
$(-\infty, 0) \cup (.9, \infty)$	$(0, .9)$	none

End Behavior

$\lim_{x \to \infty} f(x) = \infty$

$\lim_{x \to -\infty} f(x) = -\infty$

[Determine whether $f(x)$ has each of the following characteristics, and find them if applicable.]

Continuity

- Continuous
- Infinite Discontinuity
- Jump Discontinuity
- Removable Discontinuity

Extrema

Relative maximum	Absolute maximum
$(0, 8)$	none
Relative minimum	**Absolute minimum**
$(.9, 7)$	none