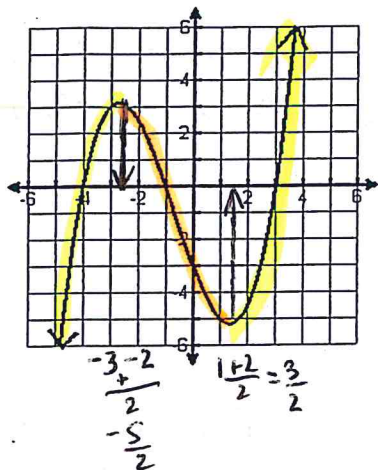


Name: _____ Hour: _____ Date: Key

Increasing, Decreasing & Constant Intervals and End Behavior Practice

For each of the following graphs determine the domain, range, increasing, decreasing and/or constant intervals, x-intercepts, y-intercepts and describe the end behavior.



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

Constant: —

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

x-intercepts: $(-4, 0) + (-1, 0) + (3, 0)$

Increasing: $(-\infty, -\frac{5}{2}) \cup (\frac{3}{2}, \infty)$

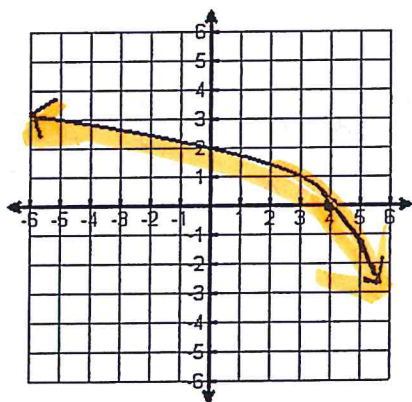
y-intercepts: $(0, -3)$

Decreasing: $(-\frac{5}{2}, \frac{3}{2})$

End Behavior (Left & Right):

LEB: As $x \rightarrow -\infty, y \rightarrow -\infty$

REB: As $x \rightarrow \infty, y \rightarrow \infty$



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

Constant: —

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

x-intercepts: $(4, 0)$

Increasing: —

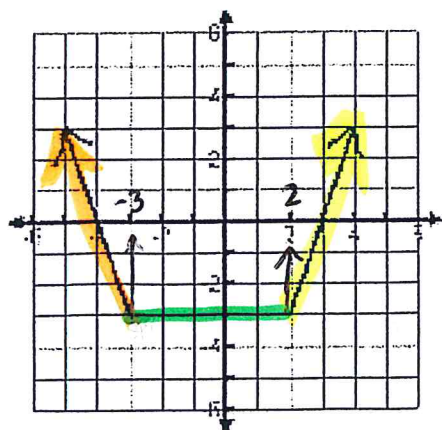
y-intercepts: $(0, 2)$

Decreasing: $(-\infty, \infty)$

End Behavior (Left & Right):

LEB: As $x \rightarrow -\infty, y \rightarrow \infty$

REB: As $x \rightarrow \infty, y \rightarrow -\infty$



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

Constant: $(-3, 2)$

Range: $[-3, \infty)$

x-intercepts: $(-4, 0) + (3, 0)$

Increasing: $(2, \infty)$

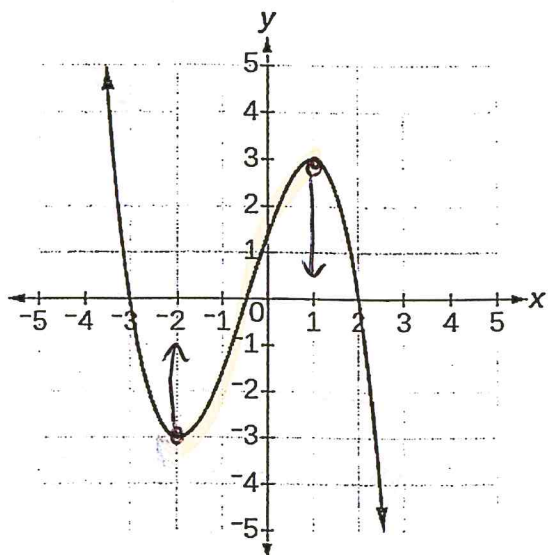
y-intercepts: $(0, -3)$

Decreasing: $(-\infty, -3)$

End Behavior (Left & Right):

LEB: As $x \rightarrow -\infty, y \rightarrow \infty$

REB: As $x \rightarrow \infty, y \rightarrow \infty$



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

Constant: —

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

x-intercepts: $(-3, 0)$ & $(2, 0)$

Increasing: $(-2, 1)$

y-intercepts: $(0, \frac{3}{2})$

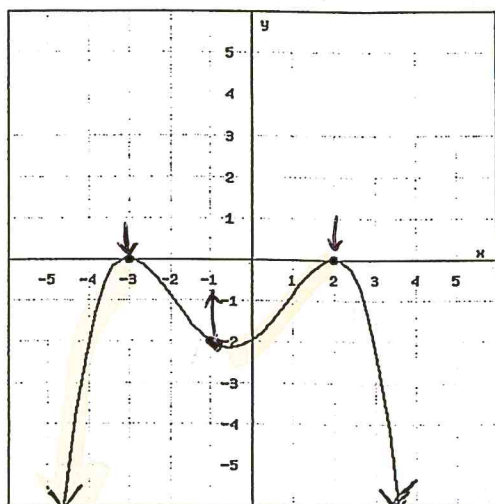
Decreasing:

End Behavior (Left & Right)

$(-\infty, -2) \cup (1, \infty)$

LEB: As $x \rightarrow -\infty, y \rightarrow \infty$

REB: As $x \rightarrow \infty, y \rightarrow -\infty$



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

Constant: —

Range: $(-\infty, 0]$

x-intercepts: $(-3, 0)$ & $(2, 0)$

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

y-intercepts: $(0, -2)$

Decreasing:

End Behavior (Left & Right)

$(-3, -1) \cup (2, \infty)$

LEB: As $x \rightarrow -\infty, y \rightarrow \infty$

REB: As $x \rightarrow \infty, y \rightarrow -\infty$

SLOT Practice

Factor each of the following quadratics.

1) $m^2 + 7m - 30$

~~$\begin{array}{r} -30 \\ 10 \times -3 \\ 7 \end{array}$~~ $(m+10)(m-3)$

2) $x^2 + 13x + 42$

~~$\begin{array}{r} 42 \\ 6 \times 7 \\ 13 \end{array}$~~ $(x+6)(x+7)$

3) $v^2 + 2v - 48$

~~$\begin{array}{r} -48 \\ -6 \times 8 \\ +2 \end{array}$~~ $(v+8)(v-2)$

4) $x^2 + 4x - 12$

~~$\begin{array}{r} -12 \\ 6 \times -2 \\ 4 \end{array}$~~ $(x+6)(x-2)$