Identify intervals on which the function is decreasing and increasing.
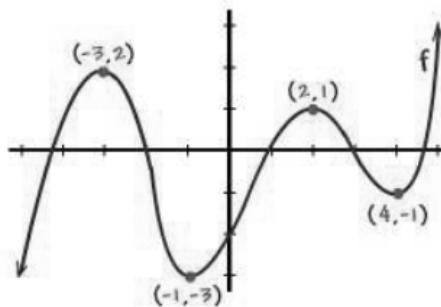
Increasing
$(-\infty, -3)$ $(-1, 2)$ $(4, \infty)$

Decreasing
$(-3, -1)$ $(2, 4)$

For each function identify the intervals of increasing and decreasing.

$f(x) = -x^3 + 2x + 2$

$f(x) = x^3 - 11x^2 + 39x - 47$

$g(x) = \dfrac{x^2}{4x+4}$

$h(t) = \dfrac{3x^2 - 3}{x^3}$

$X \to \infty$ $y \to$

$X \to -\infty$ $y \to$

Degree odd
opposite Direction
L.C. > 0
  $X \to \infty$, $y \to \infty$
  $X \to -\infty$, $y \to -\infty$
L.C < 0
  $X \to \infty$, $y \to -\infty$
  $X \to -\infty$, $y \to \infty$

Degree Even
  Same way
L.C. > 0
  $X \to \infty$, $y \to \infty$
  $X \to -\infty$, $y \to \infty$
  $X \to \pm\infty$, $y \to \infty$

L.C < 0
  $X \to \infty$, $y \to -\infty$
  $X \to -\infty$, $y \to -\infty$
  $X \to \pm\infty$, $y \to -\infty$

Describe the end behaviors for each function.

$f(x) = x^3 - 4x^2 + 7$

$g(x) = x^4 - 4x^2 - x - 5$

$h(t) = t^5 - 4t^3 + 5t + 2$

$p(x) = -x^4 + 3x^3 - 5x + 2$

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

$f(x) = (x - 3)(x + 5)(x - 1)$

B) $f(x) = (x - 3)(5 - 6x)(x - 1)$