

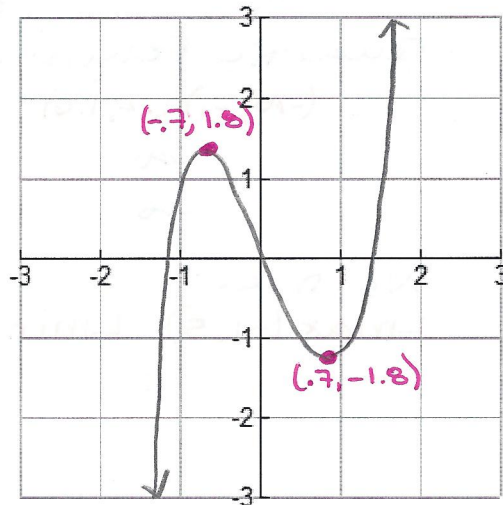
For each of the following equations, answer A-G.

- A) Domain/Range
B) Name by degree & number of terms

- C) Increasing/Decreasing
D) End Behavior
E) Symmetry (Even, Odd, Neither)
F) Local or Absolute Max/Min
G) Roots/Zeros

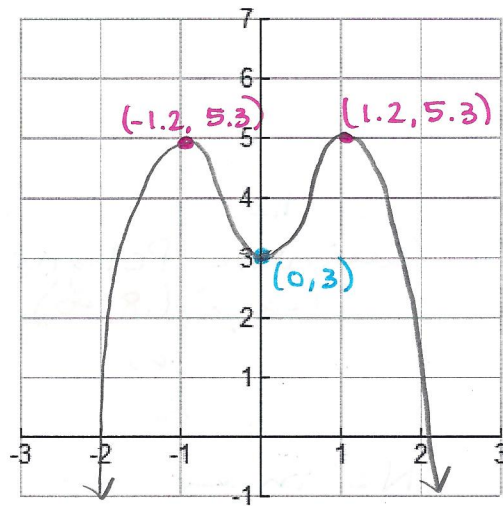
1. $f(x) = 3x^3 - 4x$

- A) Domain: \mathbb{R} Range: \mathbb{R}
B) Cubic Binomial
C) Increase: $(-\infty, -0.7)$ $(0.7, \infty)$ Decrease: $(-0.7, 0.7)$
D) $x \rightarrow -\infty f(x) \rightarrow -\infty$
 $x \rightarrow \infty f(x) \rightarrow \infty$
E) Odd
F) L. max $(-0.7, 1.8)$ L. min $(0.7, -1.8)$
G) Skip for now



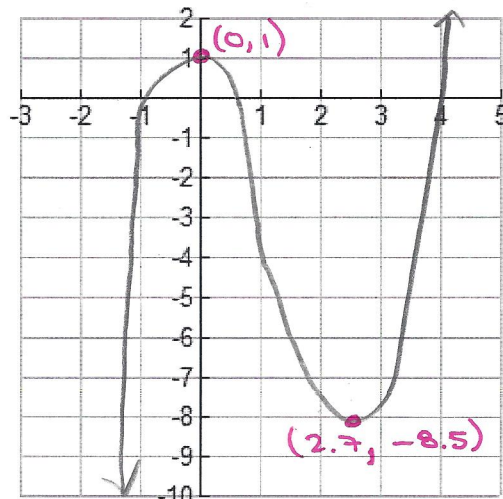
2. $y = -x^4 + 3x^2 + 3$

- A) Domain: \mathbb{R} Range: $y \leq 5.3$
B) Quartic Trinomial
C) Increase: $(-\infty, -1.2)$ $(0, 1.2)$ Decrease: $(-1.2, 0)$ $(1.2, \infty)$
D) $x \rightarrow -\infty f(x) \rightarrow -\infty$
 $x \rightarrow \infty f(x) \rightarrow -\infty$
E) Even
F) A. max $(-1.2, 5.3)$ $(1.2, 5.3)$ L. min $(0, 3)$
G) Skip for now



3. $y = x^3 - 4x^2 + 1$

- A) Domain: \mathbb{R} Range: \mathbb{R}
B) Cubic Trinomial
C) Increase: $(-\infty, 0)$ $(2.7, \infty)$ Decrease: $(0, 2.7)$
D) $x \rightarrow -\infty f(x) \rightarrow -\infty$
 $x \rightarrow \infty f(x) \rightarrow \infty$
E) Neither
F) L. max $(0, 1)$ L. min $(2.7, -8.5)$
G) Skip for now



For each of the following equations, answer A-G.

A) Domain/Range

B) Name by degree & number of terms

C) Increasing/Decreasing

D) End Behavior

E) Symmetry (Even, Odd, Neither)

F) Local or Absolute Max/Min

G) Roots/Zeros

4. $y = -x^4 + x^3 + 3x^2 - x + 3$

A) Domain: \mathbb{R} Range: $y \leq 6.6$

B) Quartic Polynomial

C) Increase: $(-\infty, -1) (2, 1.6)$ Decrease: $(-1, 2) (1.6, \infty)$

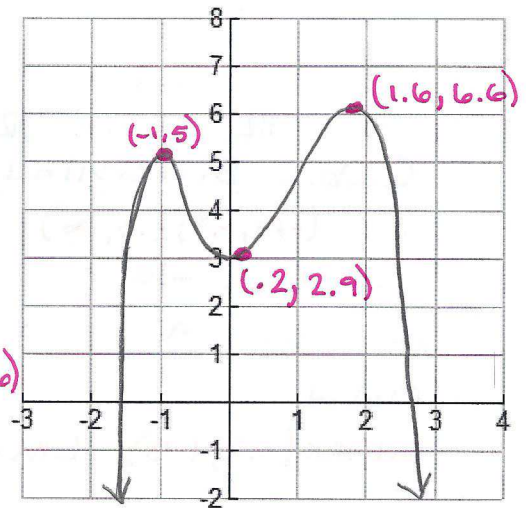
D) $x \rightarrow -\infty f(x) \rightarrow -\infty$

$x \rightarrow \infty f(x) \rightarrow -\infty$

E) Neither

F) Lmax(-1, 5) Lmin(2, 2.9) Amax(1.6, 6.6)

G) Skip for now



5. $y = x^5 + 3x^3 - 5x^2 - 2$

A) Domain: \mathbb{R} Range: \mathbb{R}

B) Quintic Polynomial

C) Increase: $(-\infty, 0) (8, \infty)$ Decrease: $(0, 8)$

D) $x \rightarrow -\infty f(x) \rightarrow -\infty$

$x \rightarrow \infty f(x) \rightarrow \infty$

E) Neither

F) Lmax(0, -2) Lmin(8, -3.3)

G) Skip for now

