

Name: Key

Date: _____

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

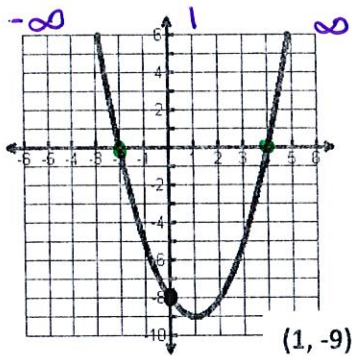
Rel. Max: NA Rel. Min: (1, -9)

Abs. Max: NA Abs. Min: (1, -9)

Inc: (1, ∞) Dec: (-∞, 1)

Domain: (-∞, ∞) Range: [-9, ∞)

Roots: x = -2, 4 y-int: (0, -8)



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

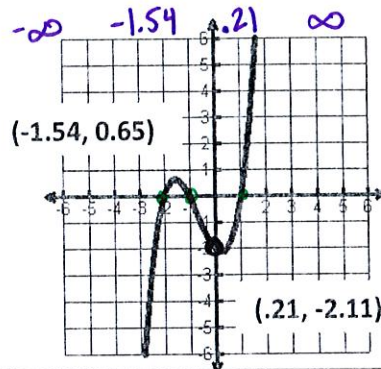
Rel. Max: (-1.54, 0.65) Rel. Min: (.21, -2.11)

Abs. Max: NA Abs. Min: NA

Inc: (-∞, -1.54) Dec: (-1.54, .21)
(.21, ∞)

Domain: (-∞, ∞) Range: (-∞, ∞)

Roots: x = -2, -1, 1 y-int: (0, -2)



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

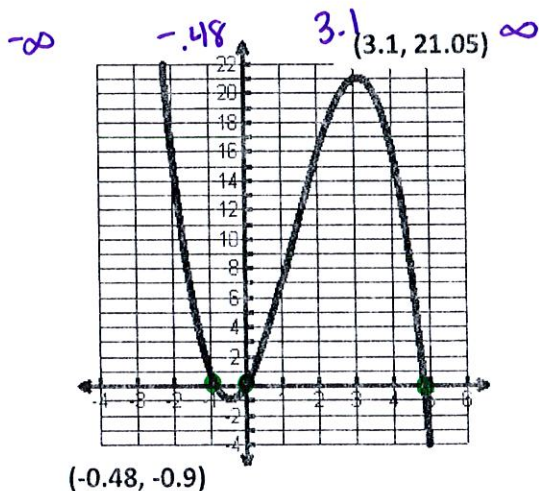
Rel. Max: (3.1, 21.05) Rel. Min: (-0.48, -0.9)

Abs. Max: NA Abs. Min: NA

Inc: (-0.48, 3.1) Dec: (-∞, -0.48) (3.1, ∞)

Domain: (-∞, ∞) Range: (-∞, ∞)

Roots: x = -1, 0, 4.9 y-int: (0, 0)



4. $f(x) = x^3 - 2x^2 - 4x + 8$

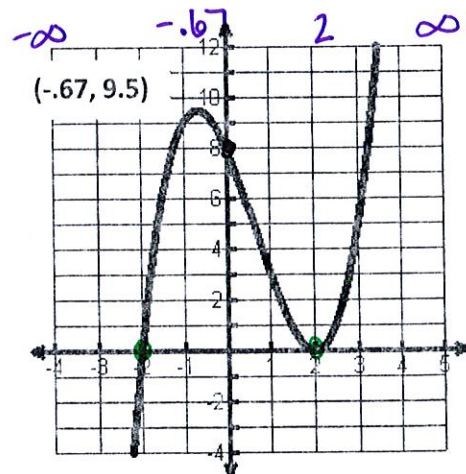
Rel. Max: (-0.67, 9.5) Rel. Min: (2, 0)

Abs. Max: NA Abs. Min: NA

Inc: (-∞, -0.67) (2, ∞) Dec: (-0.67, 2)

Domain: (-∞, ∞) Range: (-∞, ∞)

Roots: x = -2, 2, 2 y-int: (0, 8)



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5. $f(x) = -2x^2 + x + 6$

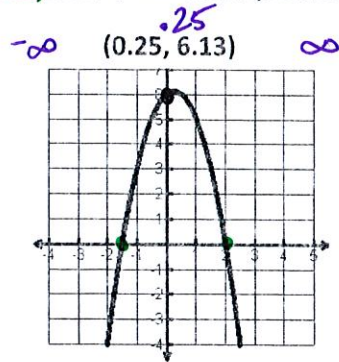
Rel. Max: $(.25, 6.13)$ Rel. Min: NA

Abs. Max: $(.25, 6.13)$ Abs. Min: NA

Inc: $(-\infty, .25)$ Dec: $(.25, \infty)$

Domain: $(-\infty, \infty)$ Range: $(-\infty, 6.13]$

Roots: $x = -1.5, 2$ y-int: $(0, 6)$



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

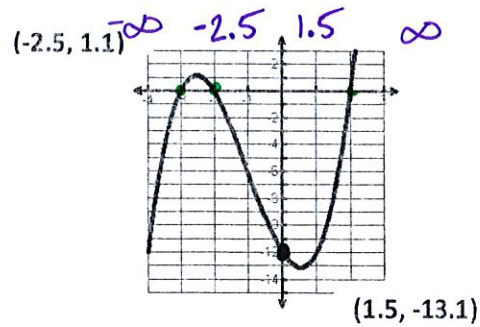
Rel. Max: $(-2.5, 1.1)$ Rel. Min: $(1.5, -13.1)$

Abs. Max: NA Abs. Min: NA

Inc: $(-\infty, -2.5)(1.5, \infty)$ Dec: $(-2.5, 1.5)$

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

Roots: $x = -3, -2, 2$ y-int: $(0, -12)$



Identify the **y-intercept** and the **# of zeros**

7. $f(x) = x^3 - 16$

Y-Int: $(0, -16)$ # of Zeros: 3

8. $f(x) = x^2 + x - 1$

Y-Int: $(0, -1)$ # of Zeros: 2

9. $f(x) = 9x^4 + x^3 - 3x - 10$

Y-Int: $(0, -10)$ # of Zeros: 4

10. $f(x) = x^3 - x - 2$

Y-Int: $(0, -2)$ # of Zeros: 3

11. $f(x) = 7x$

Y-Int: $(0, 0)$ # of Zeros: 1

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

Y-Int: $(0, 7)$ # of Zeros: 3