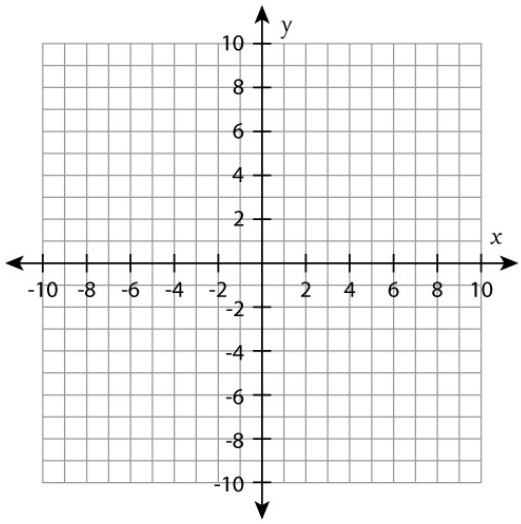
Graphing Polynomial Functions

MATH MONKS

Sketch the graph and find the given parameters.

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

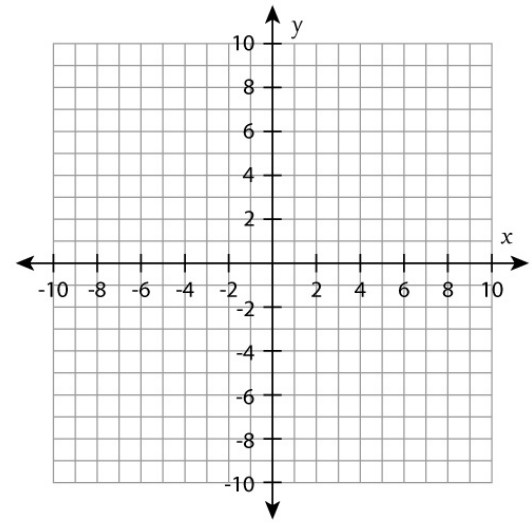


Max no. of turns _____ Maxima _____

No. of real zeros _____ Minima _____

Real zeros _____

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

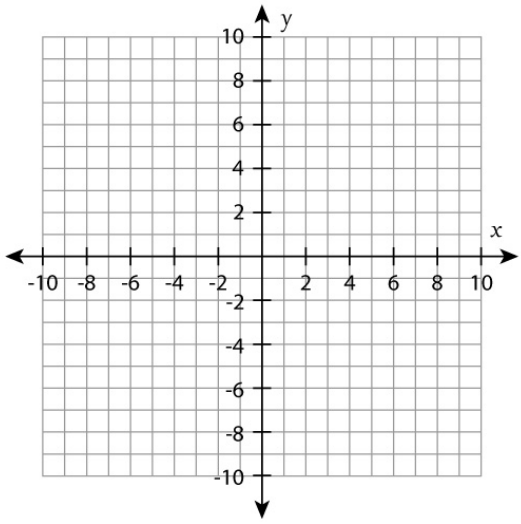


Max no. of turns _____ Maxima _____

No. of real zeros _____ Minima _____

Real zeros _____

3 $f(x) = x^2 + 2x - 5$

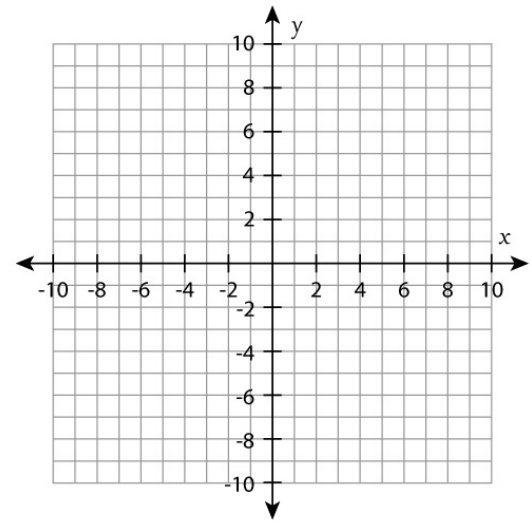


Max no. of turns _____ Maxima _____

No. of real zeros _____ Minima _____

Real zeros _____

4 $f(x) = x^5 - 4x^3 + 4x - 1$



Max no. of turns _____ Maxima _____

No. of real zeros _____ Minima _____

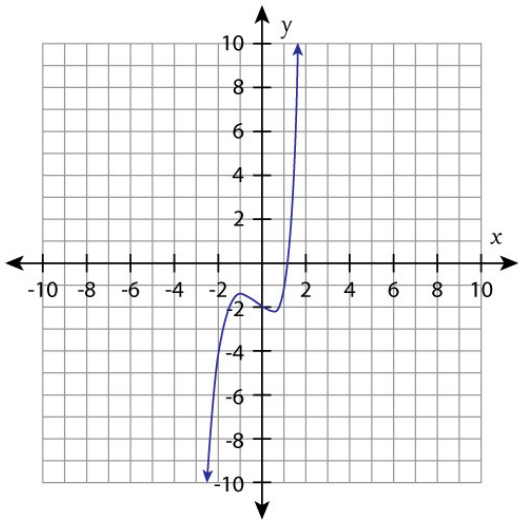
Real zeros _____

Graphing Polynomial Functions

MATH MONKS

Answers

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



Max no. of turns: 2

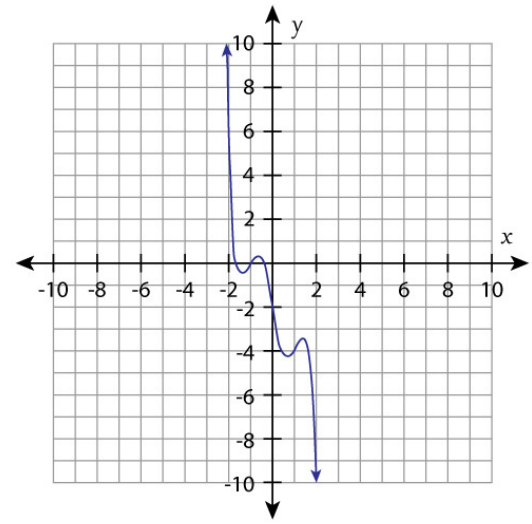
Maxima: (-1, -1)

No. of real zeros: 1

Minima: (0.3, -2.2)

Real zeros: 1.2

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



Max no. of turns: 4

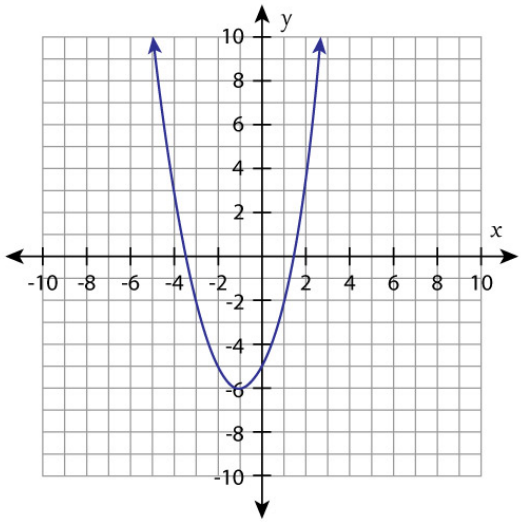
Maxima: (-1.4, -0.6) (0.7, -4.3)

No. of real zeros: 3

Minima: (-0.7, 0.3) (1.4, -3.4)

Real zeros: -1.6, -1, -0.5

3 $f(x) = x^2 + 2x - 5$



Max no. of turns: 1

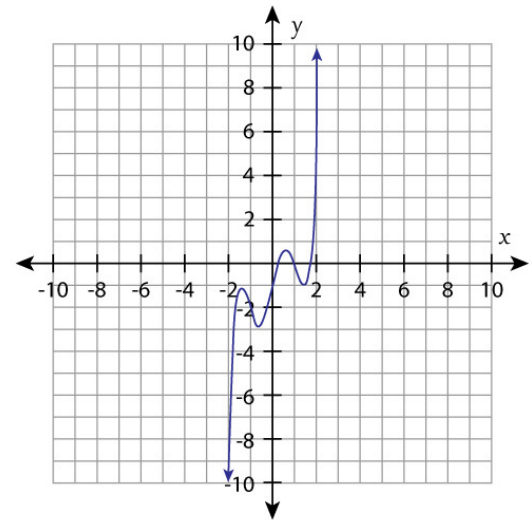
Maxima: (-1, -6)

No. of real zeros: 2

Minima: None

Real zeros: 3.4, 1.4

4 $f(x) = x^5 - 4x^3 + 4x - 1$



Max no. of turns: 4

Maxima: (-1.4, -1) (0.6, 0.6)

No. of real zeros: 3

Minima: (-0.6, -2.6) (1.4, -1)

Real zeros: 0.3, 1.7, 1