

Name : _____

Score : _____

Teacher : _____

Date : _____

Identify Relative Extrema

Find all relative extrema for each function.

1) $y = x^4 + 4x^3 - 12$

2) $y = -x^2 - 6x + 21$

3) $y = -x^2 - 2x - 14$

4) $y = 3x^4 + 8x^3 - 18x^2 - 6$

5) $y = x^4 + 4x^3 - 20x^2 + 24$

6) $y = -x^3 - 9x^2 - 15x - 9$

7) $y = x^2 + 2x - 20$

8) $y = -2x^3 + 21x^2 - 60x - 14$

9) $y = -x^3 - 3x^2 + 45x + 18$

10) $y = -3x^4 - 4x^3 + 72x^2 - 5$



Name : _____

Score : _____

Teacher : _____

Date : _____

Identify Relative Extrema

Find all relative extrema for each function.

1) $y = x^4 + 4x^3 - 12$

No Relative Maximum.

Relative Minimum: (-3, -39)

2) $y = -x^2 - 6x + 21$

Relative Maximum: (-3, 30)

No Relative Minimum.

3) $y = -x^2 - 2x - 14$

Relative Maximum: (-1, -13)

No Relative Minimum.

4) $y = 3x^4 + 8x^3 - 18x^2 - 6$

Relative Maximum: (0, -6)

Relative Minimum: (-3, -141), (1, -13)

5) $y = x^4 + 4x^3 - 20x^2 + 24$

Relative Maximum: (0, 24)

Relative Minimum: (-5, -351), (2, -8)

6) $y = -x^3 - 9x^2 - 15x - 9$

Relative Maximum: (-1, -2)

Relative Minimum: (-5, -34)

7) $y = x^2 + 2x - 20$

Relative Minimum: (-1, -21)

No Relative Maximum.

8) $y = -2x^3 + 21x^2 - 60x - 14$

Relative Maximum: (5, -39)

Relative Minimum: (2, -66)

9) $y = -x^3 - 3x^2 + 45x + 18$

Relative Maximum: (3, 99)

Relative Minimum: (-5, -157)

10) $y = -3x^4 - 4x^3 + 72x^2 - 5$

Relative Maximum: (-4, 635), (3, 292)

Relative Minimum: (0, -5)

