Name : _____ Score : _____

Teacher : _____ Date : _____

Identify Absolute Extrema

Find all absolute extrema for each function over the given interval.

1) $y = -x^4 - 8x^3 - 18x^2 + 19; (-6, 3)$

2) $y = -3x^4 - 4x^3 + 120x^2 - 24; (-7, 5)$

3) $y = x^2 + 8x + 21; (-5, -3)$

4) $y = x^4 + 12x^3 + 40x^2 - 23; (-6, 1)$

5) $y = -x^2 - 6x + 6; (-5, -2)$

6) $y = -2x^3 + 15x^2 - 24x - 5; (0, 7)$

7) $y = -x^4 - 4x^3 + 20x^2 - 9; (-8, 3)$

8) $y = 2x^3 + 15x^2 + 24x - 9; (-6, 2)$

9) $y = -x^2 - 8x + 21; (-7, -3)$

10) $y = -x^3 + 3x^2 + 9x - 6; (-4, 4)$

Name : _____ Score : _____

Teacher : _____ Date : _____

Identify Absolute Extrema

Find all absolute extrema for each function over the given interval.

1) $y = -x^4 - 8x^3 - 18x^2 + 19; (-6, 3)$

Absolute Minimum: (3, -440)

Absolute Maximum: (0, 19)

2) $y = -3x^4 - 4x^3 + 120x^2 - 24; (-7, 5)$

Absolute Minimum: (0, -24)

Absolute Maximum: (-5, 1601)

3) $y = x^2 + 8x + 21; (-5, -3)$

Absolute Minimum: (-4, 5)

Absolute Maximum: (-3, 6)

4) $y = x^4 + 12x^3 + 40x^2 - 23; (-6, 1)$

Absolute Minimum: (0, -23)

Absolute Maximum: (-6, 121)

5) $y = -x^2 - 6x + 6; (-5, -2)$

Absolute Minimum: (-5, 11)

Absolute Maximum: (-3, 15)

6) $y = -2x^3 + 15x^2 - 24x - 5; (0, 7)$

Absolute Minimum: (7, -124)

Absolute Maximum: (4, 11)

7) $y = -x^4 - 4x^3 + 20x^2 - 9; (-8, 3)$

Absolute Minimum: (-8, -777)

Absolute Maximum: (-5, 366)

8) $y = 2x^3 + 15x^2 + 24x - 9; (-6, 2)$

Absolute Minimum: (-6, -45)

Absolute Maximum: (2, 115)

9) $y = -x^2 - 8x + 21; (-7, -3)$

Absolute Minimum: (-7, 28)

Absolute Maximum: (-4, 37)

10) $y = -x^3 + 3x^2 + 9x - 6; (-4, 4)$

Absolute Minimum: (-1, -11)

Absolute Maximum: (-4, 70)