

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Concavity

Find the actual inflection coordinates and give the maximal open intervals where the polynomial is concave up and concave down.

1. Find actual inflection points; give concave-up/down intervals.

$$f(x) = 2 \cdot x^2 + 4$$

2. Find actual inflection points; give concave-up/down intervals.

$$f(x) = -2 \cdot x^3 - 12 \cdot x^2 - 18 \cdot x - 3$$

3. Find actual inflection points; give concave-up/down intervals.

$$f(x) = -2 \cdot x^4 - 8 \cdot x^3 + 16 \cdot x + 13$$

4. Find actual inflection points; give concave-up/down intervals.

$$f(x) = x^2 - 4 \cdot x$$

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Concavity

Find the actual inflection coordinates and give the maximal open intervals where the polynomial is concave up and concave down.

5. Find actual inflection points; give concave-up/down intervals.

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

6. Find actual inflection points; give concave-up/down intervals.

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

7. Find actual inflection points; give concave-up/down intervals.

$$f(x) = -x^2 + 4 \cdot x - 1$$

8. Find actual inflection points; give concave-up/down intervals.

$$f(x) = -2 \cdot x^3 + 2$$
