Symbolab

Derivative Applications

Critical & Extreme Points

Monotone Intervals

1. $monotone\ intervals\ 4x^2 - x - 3$

2. $monotone\ intervals\ x^3 - x^2 - x + 1$

3. $monotone\ intervals\ -3x^2$

4. $monotone\ intervals\ x^2 - 36x - 20$

5. $monotone\ intervals\ x^4$

6. $monotone\ intervals\ x^3 - 3x + 2$

7. $monotone\ intervals\ \sqrt[3]{x}$

8. $monotone\ intervals\ \sqrt{x - 4}$

9. $monotone\ intervals\ \sqrt{x^2 + 1}$

10. $monotone\ intervals\ \sqrt{x} + 3$

Symbolab

Answers

Derivative Applications

Critical & Extreme Points

Monotone Intervals

1. Decreasing: $-\infty < x < \frac{1}{8}$, Increasing: $\frac{1}{8} < x < \infty$

2. Increasing: $-\infty < x < -\frac{1}{3}$, Decreasing: $-\frac{1}{3} < x < 1$, Increasing: $1 < x < \infty$

3. Increasing: $-\infty < x < 0$, Decreasing: $0 < x < \infty$

4. Decreasing: $-\infty < x < 18$, Increasing: $18 < x < \infty$

5. Decreasing: $-\infty < x < 0$, Increasing: $0 < x < \infty$

6. Increasing: $-\infty < x < -1$, Decreasing: $-1 < x < 1$, Increasing: $1 < x < \infty$

7. Increasing: $-\infty < x < 0$, Increasing: $0 < x < \infty$

8. Increasing: $4 < x < \infty$

9. Decreasing: $-\infty < x < 0$, Increasing: $0 < x < \infty$

10. Increasing: $0 < x < \infty$