

SI Worksheet 3

Rational and Polynomial Inequalities

Put in interval notation.

1) $x^2 - 5x \geq 143 - 3x$

2) $\frac{x^2-10x+25}{x^2-10x+24} \div \frac{x-5}{x-1} > 1$

Function Evaluation

Evaluate each function at the given value.

3) If $f(x) = 2x^2 + 6x + 5$, evaluate $f(7)$.

4) If $H(n) = \sqrt{12n + 4 + 9n^2}$, evaluate $H(-10)$.

Domain

Write the domain of each equation.

5) $m(n) = 7n^3 + n^2 - 2$

6) $x(t) = 3\sqrt{4t - 8}$

7) $f(x) = \frac{5x^2+40x}{x^2+5x-6}$

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Challenge Problem

If $f(x) = \frac{1}{3x^2}$, $g(x) = \sqrt{(x-3)(x-4)}$, and $h(x) = x + 2$, evaluate $f(g(h(3)))$.