

Practice Exam 1

Take this practice test as you would a real exam. Time yourself, and avoid using your book or any other sources of external assistance.

1. Express in interval notation: $\{x : |x| \leq 3\}$
2. Factor $\frac{27x^3}{8y^9} + 125z^6$
3. Simplify $\frac{x^{9/2}y^{1/3} + 2x^{5/2}y^{7/3} + x^{1/2}y^{13/3}}{x^{7/3}\sqrt{y} - \sqrt[3]{xy^{5/2}}}$
4. Solve $\sqrt[3]{225x^2 + 135x} = 5x + 3$
5. Solve $\frac{2}{w^6} - \frac{7}{w^3} + 6 = 0$
6. Find and graph the solution set for $|5x + 4| > 24$
7. Find the solution set for $\frac{x}{x-3} \leq \frac{x-5}{x-2}$
8. Graph $\{(x, y) \in \mathbb{R}^2 : x^2 + 4x + y^2 - 10y + 25 = 0\}$
9. Graph $\{(x, y) \in \mathbb{R}^2 : x^2 < y^2\}$
10. Find and graph the equation relating the number of pennies in a well to the number of years since the well was dug, assuming that coins are cast into the well at a rate of 573 per year.