

EXAM 4
Math 101
November 19, 2002

Name _____

Do all work neatly. Show all of your work. Circle your final answer where appropriate.

1. Simplify the following:

(a) $\sqrt{18x^3y^4}$.

(b) $\sqrt[3]{-27x^5v^3}$.

2. Rationalize the denominator and Simplify.

(a) $\frac{\sqrt[3]{64}}{\sqrt[3]{16}}$.

(b) $\frac{2}{3 + \sqrt{5}}$.

3. Simplify:

(a) $(2^{\frac{2}{3}})^{\frac{3}{4}}$.

(b) $(2 - \sqrt{3})(\sqrt{3} - 4)$.

(c) $\sqrt{36} + \sqrt{27} - \sqrt{12} - 6$.

4. Solve by the method indicated:

(a) $x^2 - 9x = -8$ by factoring

(b) $x^2 - 8x + 16 = 81$ by using the square root property

(c) $x^2 + 10x = 11$ by completing the square

(d) $2x^2 + 5x = 3$ by the quadratic formula.

5. Solve for x . (You may use any method.)

(a) $3x - 7 = 5 + \sqrt{4x^2}$.

(b) $x^2 - 11x + 30 = 0$.

(c) $4x^2 + 3x = 6$.

(d) $16x^2 - 16 + 1 = 0$.