4. Rational exponents and radicals, rationalizing denominators

Practice Problems

Rewrite the following expressions in radical form:

1. \( x^{3/4} \)
2. \( y^{1/2} \)
3. \( 5a^{2/3} \)
4. \( (3t)^{1/2} \)

Rewrite the following expressions using only positive exponents:

1. \( \sqrt[3]{x} \)
2. \( \sqrt[5]{a^2} \)
3. \( \sqrt[5]{5x} \)

Simplify the following expressions:

1. \( (3\sqrt{2} - 1) (\sqrt{2} + 3) \)
2. \( 3\sqrt{8x^3} - 2x\sqrt{18xy} \)
3. \( 3\sqrt{8x^3y} - 2x\sqrt{18xy} \)

Rationalize the following fractions:

1. \( \frac{2\sqrt{5}}{3\sqrt{2}} \)
2. \( \frac{1 + \sqrt{3}}{2 - \sqrt{3}} \)