

Rationalize each denominator.

1. $\frac{9x}{\sqrt{12x^3y}}$

2. $\frac{\sqrt{6a^{13}b^4}}{\sqrt{5a^7b^9}}$

3. $\frac{5Q}{\sqrt[3]{10P^{16}Q^2}}$

4. $\frac{4c^3d}{\sqrt[6]{2c^7d^{15}}}$

5. $\frac{\sqrt{2} - 8\sqrt{6}}{\sqrt{6}}$