

Simplify each complex rational expression.

1.
$$\frac{\sqrt{x} - \frac{1}{3\sqrt{x}}}{\sqrt{x}}$$

2.
$$\frac{\frac{x^2}{\sqrt{x^2+2}} - \sqrt{x^2+2}}{x^2}$$

3.
$$\frac{\frac{1}{\sqrt{x+h}} - \frac{1}{\sqrt{x}}}{h}$$

4.
$$\frac{\sqrt{x} - \frac{1}{2\sqrt{x}}}{\sqrt{x}}$$

5.
$$\frac{\frac{5}{y} - \frac{6}{2y+1}}{\frac{5}{y} + 4}$$

6.
$$\frac{\frac{1}{x+1}}{\frac{1}{x^2-2x-3} + \frac{1}{x-3}}$$