

**Simplifying Complex Rational Expressions**

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**Simplify each expression.**

1) 
$$\frac{\frac{u+2}{4} - \frac{2}{3}}{u+2}$$

2) 
$$\frac{\frac{x}{2} - \frac{2}{x^2}}{\frac{x-4}{x^2}}$$

3) 
$$\frac{\frac{4}{x}}{\frac{1}{2} - \frac{x^2}{2}}$$

4) 
$$\frac{\frac{2}{x-3} + \frac{4}{x-3}}{\frac{2}{x^2}}$$

5) 
$$\frac{\frac{16}{x^2} + \frac{2}{x^2}}{x^2}$$

6) 
$$\frac{\frac{4m}{16} - \frac{16}{3}}{m}$$

7) 
$$\frac{\frac{x^2}{x^2} - \frac{x}{4}}{\frac{4}{4} - \frac{4}{4}}$$

8) 
$$\frac{\frac{4}{x^2} - \frac{3}{x}}{\frac{9}{x}}$$

9) 
$$\frac{\frac{1}{x} + \frac{1}{2}}{\frac{4}{4}}$$

10) 
$$\frac{\frac{5}{m-1} + \frac{5}{m-1}}{m-1}$$

11) 
$$\frac{\frac{x-4}{36} - \frac{6}{x-4}}{x-4}$$

12) 
$$\frac{\frac{5x}{36} - \frac{5}{x}}{\frac{x^2}{6}}$$

$$13) \frac{\frac{5}{x} + \frac{15}{x}}{\frac{25}{x}}$$

$$14) \frac{\frac{36}{1}}{\frac{4}{a}} - \frac{9}{a}$$

$$15) \frac{\frac{5}{4}}{\frac{x}{10} - \frac{5}{x^2}}$$

$$16) \frac{\frac{m+4}{m^2} + \frac{m-5}{m^2}}{m-5}$$

$$17) \frac{\frac{9}{u+1} + \frac{9}{u^2+u}}{\frac{u^2}{u+1} - \frac{3u+6}{u+1}}$$

$$18) \frac{\frac{x^2}{16} + \frac{4}{9}}{\frac{x}{12} - \frac{3}{25}}$$

$$19) \frac{\frac{9}{x} - \frac{3}{25}}{\frac{5}{3} - \frac{1}{x}}$$

$$20) \frac{\frac{6}{x^2} + \frac{x^2}{5}}{\frac{5x}{4} + \frac{x}{2}}$$

$$21) \frac{\frac{3}{x} + \frac{x^2}{9}}{\frac{5}{x} + \frac{4x}{9}}$$

$$22) \frac{\frac{a^2}{4} + \frac{a-1}{4}}{\frac{3}{a^2} + \frac{1}{a}}$$

$$23) \frac{\frac{2}{u} - \frac{u^2}{5}}{\frac{1}{u} - \frac{u^2}{2}}$$

$$24) \frac{\frac{16}{a^2} + \frac{9}{25}}{\frac{a}{25} + \frac{16}{3}}$$

$$25) \frac{\frac{3}{5} + \frac{9}{5}}{\frac{4}{3} - \frac{5}{x^2}}$$

$$26) \frac{\frac{6}{m+3} + \frac{4}{m+5}}{\frac{m+5}{m+3} - \frac{m+5}{6}}$$