

Section 7.5 Solving Rational Equations

Name: _____

Solve a rational equation by cross-multiplying.

1. $\frac{2}{x} = \frac{3}{x-4}$

2. $\frac{7}{r+9} = \frac{3}{r+3}$

3. $\frac{6}{k+3} = \frac{5}{k-7}$

4. $\frac{x}{5} = \frac{x+4}{7}$

Solve a rational equation with one solution.

5. $\frac{x-4}{4} + \frac{x}{3} = 6$

6. $\frac{k+1}{3} - \frac{k}{5} = 3$

7. $\frac{2a-3}{6} = \frac{2a}{3} + \frac{1}{2}$

8. $\frac{2}{r^2} - \frac{1}{r} = 1$

9. $\frac{3}{m^2} = \frac{m-4}{3m^2} + \frac{2}{m^2}$

10. $\frac{n-7}{4n} + \frac{3}{2} = \frac{6}{n}$

Solve a rational equation. (Check for extraneous solutions).

11. $\frac{x+1}{x} = 1 - \frac{k^2-3k-4}{4}$

12. $\frac{4x+1}{x+1} = \frac{12}{x^2-1} + 3$

$$13. \frac{4}{k^2-8k+12} = \frac{k}{k-2} + \frac{1}{k-6}$$

$$14. \frac{5}{p-5} - \frac{p^2}{p-5} = 2$$

$$15. \frac{-1}{y-3} = \frac{7y+3}{y^2-8y+15} + \frac{3y}{y-5}$$

$$16. \frac{11}{a+2} - \frac{10}{a+5} = \frac{36}{a^2+7a+10}$$

$$17. \frac{1}{x-6} + \frac{x}{x-2} = \frac{4}{x^2-8x+12}$$

$$18. \frac{8x^2}{x^2-9} - \frac{4x}{x+3} = \frac{2}{x-3}$$

$$19. \frac{2a-3}{a-3} - 2 = \frac{12}{a+3}$$

$$20. \frac{y}{y+3} - \frac{3}{y-5} = 2$$

$$21. y - \frac{6}{y} = 5$$

$$22. \frac{4u}{u+3} + u = \frac{8}{u+3}$$