

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Block: \_\_\_\_\_

Solve the following equations. Determine the restrictions.

1.  $\frac{2}{x} = \frac{x+1}{3}$

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

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

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

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

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

7.  $\frac{12}{m-2} - \frac{6}{m-3} = 1$

8.  $\frac{6}{x+3} + \frac{x}{x-3} = 1$

9.  $1 + \frac{1}{n-1} = \frac{n}{n-1}$

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

11.  $\frac{1}{x-2} = \frac{x+1}{3x-6} - \frac{5x}{6}$

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

13.  $\frac{8}{x^2-16} + 1 = \frac{1}{x-4}$

14.  $\frac{x+4}{x} + \frac{16}{x^2-4x} = \frac{-3}{x-4}$

15.  $\frac{d+2}{d+3} + \frac{3}{d^2+3d} = \frac{1}{d}$

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

17.  $\frac{1}{3z-1} + 1 = \frac{6}{3z^2-4z+1}$

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

### Answers

1.  $-3, 2; x \neq 0$

2.  $-1; x \neq 1, -3$

3.  $-2, 5; y \neq 4$

4. No Solution;  $t \neq -\frac{2}{3}, 1$

5.  $0; x \neq 1,$

6.  $-2, 2; x \neq -1, 0$

7.  $5, 6; x \neq 2, 3$

8.  $1; x \neq -3, 3$

9.  $n \in R$  except  $1; n \neq 1$

10.  $\frac{3}{2}; x \neq -\frac{1}{2}$

11.  $\frac{2}{5}; x \neq 2$

12.  $-3, -1; x \neq 0$

13.  $-3; x \neq -4, 4$

14.  $-3; x \neq 0, 4$

15.  $-1; d \neq -3, 0$

16. No solution;  $k \neq -4, 1$

17.  $-1, 2; z \neq \frac{1}{3}, 1$

18.  $-1, \frac{4}{3}; x \neq 1, 2$