

Solving Rational Equations WS#1

Solve each equation. Remember to check for extraneous solutions.

$$1) \frac{5}{x-6} = \frac{1}{x-6} + 1$$

$$2) \frac{1}{x} + \frac{1}{x^2+x} = \frac{5}{x^2+x}$$

$$3) 3 = \frac{5k+15}{3k+6} - \frac{k+4}{3k+6}$$

$$4) \frac{1}{r^2+2r-3} + \frac{6r+6}{r^2+2r-3} = \frac{1}{r-1}$$

$$5) \frac{1}{n} - \frac{6}{n^2+3n} = \frac{4}{n+3}$$

$$6) \frac{p-5}{p-1} = \frac{2p+10}{3p-3} - \frac{1}{3p-3}$$

$$7) \frac{n-4}{3n^2-5n} = \frac{n-1}{3n^2-5n} - \frac{1}{n}$$

$$8) \frac{1}{r+1} = 4 + \frac{4}{r+1}$$

$$9) \frac{3}{p^2-3p-4} = \frac{3p^2+14p-24}{p^2-3p-4} + \frac{p+4}{p-4}$$

$$10) \frac{6}{r-3} - \frac{r^2-5r-6}{3r-9} = \frac{r+3}{3}$$

$$11) \frac{1}{x} + 1 = \frac{x+2}{x-1}$$

$$12) \frac{k+4}{k^2-5k} + \frac{k-6}{k-5} = \frac{k-1}{k^2-5k}$$

$$13) \frac{p-6}{p} = \frac{2}{p-4} - \frac{p+6}{p}$$

$$14) \frac{r}{r+3} = \frac{3}{r+3} + \frac{4}{r^2-3r-18}$$

$$15) \frac{n^2+n-6}{n-3} = 1 + \frac{2n-4}{n-3}$$

$$16) \frac{1}{x^2} = 1 - \frac{x-4}{x}$$