

Algebra 1.5

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Solve each equation. Remember to check for extraneous solutions.

1)
$$\frac{7}{x^2 + 9x + 18} - \frac{4}{x + 6} = \frac{1}{x + 6}$$

2)
$$\frac{5}{2v + 8} = \frac{1}{2} + \frac{1}{2v + 8}$$

3)
$$\frac{m - 7}{3m} = 1 - \frac{5}{3m}$$

4)
$$7 = \frac{3x}{x - 7} + \frac{1}{x - 7}$$

$$5) \frac{1}{6v} - 4 = \frac{5}{6v}$$

$$6) \frac{4}{8p^2 - 39p - 5} - \frac{1}{8p + 1} = \frac{p + 1}{8p^2 - 39p - 5}$$

$$7) 1 + \frac{4}{4x - 3} = \frac{1}{8x - 6}$$

$$8) \frac{5a + 35}{a^2 + 11a + 30} - \frac{a + 4}{a^2 + 11a + 30} = \frac{1}{a + 5}$$

$$9) \frac{8}{x^2 - 6x} = \frac{6}{x^2 - 6x} - \frac{1}{x - 6}$$

$$10) \frac{1}{k^2 + 5k} + \frac{1}{k} = \frac{7}{k + 5}$$

$$11) \frac{7}{n+5} = \frac{1}{n+5} + 1$$

$$12) \frac{r+5}{r+2} = 8 + \frac{r-1}{r+2}$$

$$13) \frac{3}{v+6} = \frac{1}{v+6} - 5$$

$$14) \frac{1}{2n} = \frac{1}{8n} + 1$$

$$15) \frac{1}{x} + \frac{x-4}{x} = 2$$

$$16) \frac{1}{n} + \frac{7}{n} = \frac{1}{n+1}$$

$$17) \frac{1}{n^2 - 2n} - \frac{1}{n} = \frac{2}{n^2 - 2n}$$

$$18) \frac{1}{m} + \frac{7m + 1}{m^2 - 3m} = \frac{4}{m}$$

$$19) \frac{5x + 15}{3x^2 - 4x} + \frac{1}{3x^2 - 4x} = \frac{1}{x}$$

$$20) \frac{4}{x - 6} = 1 + \frac{1}{x - 6}$$

$$21) \frac{1}{2b^2 - 16b} - \frac{b + 8}{2b^2 - 16b} = \frac{6}{b^2 - 8b}$$

$$22) \frac{3x - 7}{4x + 12} = \frac{x}{x + 3} - \frac{x - 8}{x + 3}$$

$$23) \frac{1}{x^2 - 8x} = \frac{1}{3x^2 - 24x} + \frac{x - 5}{3x^2 - 24x}$$

$$24) \frac{5}{n} = \frac{1}{n} + \frac{1}{n^2 - 8n}$$

$$25) \frac{7k - 28}{k^2 - 8k} = \frac{5k - 30}{k^2 - 8k} - \frac{1}{k - 8}$$

$$26) \frac{1}{n^2 + 4n} = \frac{n + 3}{4n^2 + 16n} - \frac{1}{4n^2 + 16n}$$

$$27) \frac{2}{b} + \frac{1}{b^2 - 5b} = \frac{3}{b^2 - 5b}$$

$$28) \frac{8}{3} + \frac{1}{3a + 6} = \frac{4}{3}$$

$$29) \frac{r+6}{5r} - \frac{8r-40}{5r} = 1$$

$$30) \frac{1}{p+6} = \frac{1}{p^2+6p} - \frac{2}{p+6}$$