

Algebraic equation

Q1 . Simplify the following algebraic expression.

$$a. \frac{x^2 - 8x + 15}{2x^2 - 7x - 15} =$$

$$b. \frac{2x^2 + 8x + 6}{2x^2 + 7x + 3} =$$

$$c. \frac{2x^2 - 8}{x^2 - 3x + 2} =$$

$$d. \frac{18x^2 - 50}{9x^2 - 3x - 20} =$$

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

$$f. \frac{2x^2 - 9x - 5}{4x^2 - 1} =$$

$$g. \frac{x^2 + 2x - 3}{2x^2 + 7x + 3} =$$

$$h. \frac{4x^2 - 1}{2x^2 + 5x - 3} =$$

$$i. \frac{6x^2 + x - 2}{9x^2 - 4} =$$

$$j. \frac{4x^2 + x - 3}{4x^2 - 7x + 3} =$$

Q2 . Solve the following equations.

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

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

$$c. \frac{2p-1}{2} - \frac{6}{p+1} = 1$$

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

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

$$f. \frac{x^2 + 3x - 28}{x^2 + 5x - 14} = \frac{1}{2-x} + \frac{2x}{2x+5}$$

Simplify each of the following and give your answer as a single fraction.

<p>Q3 .</p> $\frac{6}{x+3} - \frac{2}{x+1}$ <p>= _____</p>	<p>Q4 .</p> $\frac{3}{x-4} - \frac{1}{x+5}$ <p>= _____</p>	<p>Q5.</p> $\frac{2x}{x-1} - \frac{7x-3}{x^2-1}$ <p>= _____</p>
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