

Test - Algebraic Fractions

Simplify:

1. $\frac{3x}{7} \times \frac{2x}{9}$

_____ [2]

2. $\frac{4ab}{6} \div \frac{b}{3a}$

_____ [2]

3. $\frac{2x}{3} + \frac{x}{4}$

_____ [2]

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

_____ [2]

Q. Solve the following equations:

$$5. \frac{x^2}{3} = 12$$

$$x = \underline{\hspace{2cm}} \text{ OR } \underline{\hspace{2cm}} [2]$$

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

$$x = \underline{\hspace{4cm}} [3]$$

$$7. \frac{3(x-2)}{2} - \frac{(x-5)}{4} = 2$$

$$x = \underline{\hspace{4cm}} [3]$$

$$8. \frac{1}{5}(x+1) - \frac{1}{15}(2x+3) - \frac{1}{3}(1-3x) = -1$$

$$x = \underline{\hspace{10em}} \quad [4]$$

Bonus Question: (only attempt if you have finished the other questions).

9. Solve the equation:

$$\frac{3(x+2)^3(x-1)}{(x+2)^2} - \frac{3(x+4)^7(x-3)^3}{(x-3)^2(x+4)^6} = 30$$

Hint: Start by simplifying the fractions individually by cancelling terms.