

*Algebraic Fractions and Equations*Essential information

---

*Algebraic fractions*

These are of the form

$$\frac{ax + b}{cx + d}$$

when  $a$ ,  $b$ ,  $c$ , and  $d$  are constants.

For example,  $\frac{x + 3}{3x - 1}$ ,  $\frac{2y + 4}{3 - 2y}$ ,  $\frac{3}{x + 2}$

Note that

- $\frac{1}{a} + \frac{1}{b} = \frac{b + a}{ab}$
- If  $(x - a)(x - b) = 0$  then  $x = a$  or  $x = b$
- The formula for solving the quadratic equation

$$ax^2 + bx + c = 0$$

is

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$