- $\frac{2}{3} \cdot \frac{7}{4} =$ $\quad \frac{2 \cdot 7}{3 \cdot 4} = \frac{14}{12} = \frac{7}{6}$
- $\frac{2}{3} + \frac{7}{4}$

$$= \left(\frac{4}{4}\right)\frac{2}{3} + \left(\frac{3}{3}\right)\frac{7}{4} = 1\left(\frac{2}{3}\right) + 1\left(\frac{7}{4}\right)$$

$$= \frac{8}{12} + \frac{21}{12}$$

$$= \frac{8+21}{12} = \frac{29}{12}.$$

$$\frac{x+1}{x} + \frac{x^3-1}{x+1} = \left(\frac{x+1}{x+1}\right)\frac{x+1}{x} + \left(\frac{x}{x}\right)\frac{x^3-1}{x+1}$$

$$= \frac{(x+1)(x+1)}{(x+1)(x)} + \frac{x(x^3-1)}{x(x+1)}$$

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

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

$$= \frac{x^4 + x^2 + x + 1}{(x+1)x}$$

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

- $xy = 6 \Rightarrow x = 6$ or $y = 6$

  $x = 2, y = 3$

- $(x+3)^2 = x^2 + 3^2$

  $x = 1 \Rightarrow (x+3)^2 = (1+3)^2 = 4^2 = 6$

  but

  $x^2 + 3^2 = 1^2 + 3^2 = 1 + 9 = 10 \neq 6$

  $= (x+3)(x+3) = x^2 + 6x + 9.$