

1 Frações e expoentes

1. (a)

$$\frac{x^2 - 9}{x^2 + x - 12} = \frac{(x+3)(x-3)}{(x+4)(x-3)} = \frac{x+3}{x+4}$$

(b)

$$\begin{aligned} & \frac{3x^3 + 24}{x^3 + x^2 - 2x} \\ & \frac{3x^3 + 24}{x(x^2 + x - 2)} \\ & \frac{3x^3 + 24}{x(x+2)(x-1)} \\ & \frac{3(x^3 + 8)}{x(x+2)(x-1)} \\ & \frac{3(x+2)(x^2 - 2x + 4)}{x(x+2)(x-1)} \\ & \frac{3(x^2 - 2x + 4)}{x(x-1)} \end{aligned}$$

(c)

$$\frac{x^3 - 1}{x^7 - 1}$$

2.