

# Cancelling in Fractions

$$1 \cdot x = x$$

$$\frac{a^3}{a^2} = \frac{a \cdot a \cdot a}{a \cdot a} = \frac{\cancel{a} \cdot \cancel{a} \cdot a}{\cancel{a} \cdot \cancel{a}} = a^1 = a^{3-2}$$

$$\frac{x^{16}}{x^{11}} = x^{16-11} = x^5$$

$$\frac{24}{18} = \frac{6 \cdot 4}{6 \cdot 3} = \frac{\cancel{6} \cdot 4}{\cancel{6} \cdot 3} = \frac{4}{3}$$

$$\frac{6 \cancel{x^2} y^3}{8 \cancel{x^2} y} = \frac{2 \cdot 3 \cdot \cancel{x} \cdot \cancel{x} \cdot y \cdot y \cdot y}{2 \cdot 4 \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{y}} = \frac{\cancel{2} \cdot 3 \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{y} \cdot y \cdot y}{\cancel{2} \cdot 4 \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{y}} = \frac{3}{4} \frac{y^2}{x^2} = \frac{3y^2}{4x^2}$$

$$\frac{\cancel{x^2} + x^3}{\cancel{x^2}}$$

$$\begin{aligned} \frac{x^2 + x^3}{x^2} &= \frac{x^2(1+x)}{x^2} \\ &= \frac{\cancel{x^2}}{\cancel{x^2}} (1+x) \\ &= 1+x \end{aligned}$$