

# Amsmath example

ShareLaTeX Templates

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## 1 Introduction

$$\begin{aligned} A &= \frac{\pi r^2}{2} \\ &= \frac{1}{2} \pi r^2 \end{aligned} \tag{1}$$

## 2 Writing a single equation

$$e^{\pi i} + 1 = 0 \tag{2}$$

The beautiful equation 2 is known as the Euler equation

## 3 Displaying long equations

$$\begin{aligned} p(x) = 3x^6 + 14x^5y + 590x^4y^2 + 19x^3y^3 \\ - 12x^2y^4 - 12xy^5 + 2y^6 - a^3b^3 \end{aligned}$$

## 4 Aligning several equations

$$\begin{aligned} 2x - 5y &= 8 \\ 3x + 9y &= -12 \end{aligned}$$

$$\begin{array}{lll} x = y & w = z & a = b + c \\ 2x = -y & 3w = \frac{1}{2}z & a = b \\ -4 + 5x = 2 + y & w + 2 = -1 + w & ab = cb \end{array}$$

## 5 Grouping and centering equations

$$\begin{aligned}2x - 5y &= 8 \\ 3x^2 + 9y &= 3a + c\end{aligned}$$

$$\cos(x) \cdot e^{-x^2/2}$$