## Amsmath example

#### ShareLaTeX Templates

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#### 1 Introduction

$$A = \frac{\pi r^2}{2}$$

$$= \frac{1}{2}\pi r^2$$
(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

$$p(x) = 3x^6 + 14x^5y + 590x^4y^2 + 19x^3y^3 - 12x^2y^4 - 12xy^5 + 2y^6 - a^3b^3$$

### 4 Aligning several equations

$$2x - 5y = 8$$
$$3x + 9y = -12$$

$$x=y$$
  $w=z$   $a=b+c$ 

$$2x=-y$$
  $3w=\frac{1}{2}z$   $a=b$ 

$$-4+5x=2+y$$
  $w+2=-1+w$   $ab=cb$ 

# 5 Grouping and centering equations

$$2x - 5y = 8$$
$$3x^2 + 9y = 3a + c$$