A sentence with inline mathematics: $y = mx + c$. A second sentence with inline mathematics: $5^2 = 3^2 + 4^2$. A second paragraph containing display math.

$$y = mx + c$$

See how the paragraph continues after the display.

$$e = m * c^2$$

A paragraph about a larger equation

$$\int_{-\infty}^{+\infty} e^{-x^2}\,dx$$

$$\int_{1}^{2} x^2\,dx$$

A paragraph about a larger equation

$$\int_{-\infty}^{+\infty} e^{-x^2}\,dx \tag{1}$$

Solve the following recurrence for $n, k \geq 0$:

$$Q_{n,0} = 1 \quad Q_{0,k} = [k = 0];$$
$$Q_{n,k} = Q_{n-1,k} + Q_{n-1,k-1} + \binom{n}{k}, \quad \text{for } n,\, k > 0.$$

AMS matrices.

$$\begin{matrix} a & b & c \\ d & e & f \end{matrix} \quad \begin{pmatrix} a & b & c \\ d & e & f \end{pmatrix} \quad \begin{bmatrix} a & b & c \\ d & e & f \end{bmatrix}$$

bad use $size \neq size \neq$ size *bad use* $size \neq size \neq$ size
Gather

$$P(x) = ax^5 + bx^4 + cx^3 + dx^2 + ex + f \tag{2}$$
$$x^2 + x = 10 \tag{3}$$

Multline

$$(a+b+c+d)x^5 + (b+c+d+e)x^4 + (c+d+e+f)x^3 + (d+e+f+a)x^2 + (e+f+a+b)x + (f+a+b+c)$$

Aligned equations

$$\begin{aligned} a &= b + 1 & c &= d + 2 & e &= f + 3 \\ r &= s^2 & t &= u^3 & v &= w^4 \end{aligned}$$

- $a = b$
  $c = d$
- $a = b$
  $c = d$

$(x+y)(x-y) = x^2-y^2$ $\boldsymbol{(x+y)(x-y) = x^2-y^2}$ $\boldsymbol{\pi r^2}$ $(x+\mathbf{y})(x-\mathbf{y}) = x^2-\mathbf{y}^2$
πr^2
$(x+\mathbf{y})(x-\mathbf{y}) = x^2-\mathbf{y}^2$ $(x+\boldsymbol{y})(x-\boldsymbol{y}) = x^2-\boldsymbol{y}^2$ $\alpha+\boldsymbol{\alpha} < \beta+\boldsymbol{\beta}$

$$\begin{pmatrix} 10 & 11 \\ 1 & 2 \\ -5 & -6 \end{pmatrix}$$