# **Example**

The purpose of this example is to compare adoc-math and asciidoctor-mathematical, and to show example of its usage.

## adoc-math vs asciidoctor-mathematical

#### adoc-math

We are about to discuss the famous Cauchy-Schwarz Inequality.

**Theorem 1 (Cauchy-Schwarz Inequality)** Let n be a non-negative integer, and let  $a_0, a_1, ..., a_n, b_0, b_1, ..., b_n \in \mathbb{R}$  where  $\mathbb{R}$  is the set of real numbers. It follows that:

$$\left(a_0^2+a_1^2+...+a_n^2
ight)\left(b_0^2+b_1^2+...+b_n^2
ight) \geq \left(a_0b_0+a_1b_1+...+a_nb_n
ight)^2$$

Figure 1. Cauchy-Schwarz Inequality

### asciidoctor-mathematical

**Theorem 1 (Cauchy-Schwarz Inequality)** Let n be a non-negative integer, and let  $a_0, a_1, ..., a_n, b_0, b_1, ..., b_n \in R$  where R is the set of real numbers. It follows that

Cauchy-Schwarz Inequality

$$(a_0^2 + a_1^2 + \dots + a_n^2)(b_0^2 + b_1^2 + \dots + b_n^2) \ge (a_0b_0 + a_1b_1 + \dots + a_nb_n)^2$$

# **Examples**

input	output	notes
\$a/b\$	$\frac{a}{b}$	<ul> <li>The default language is AsciiMath.</li> <li>Inline cells start with a \$, and end with a \$.</li> </ul>
\$a/b\$ amath	$\frac{a}{b}$	<ul> <li>Options come after the last \$ in inline cells.</li> <li>You can override the default language with</li> <li>amath (AsciiMath), or</li> </ul>
<pre>\$\dfrac{a}{b}\$ tex</pre>	$\frac{a}{b}$	• tex (LaTeX) options
\$a/b\$ scale = 150%	$\frac{a}{b}$	• You can scale your math.
<pre>\$a/b\$ vertical_align_offset = 1ex</pre>	$\frac{a}{b}$	You can move your math up or down.
<pre>\$\$ amath sum_(i=1)^n i^3=((n(n+1))/2)^2 \$\$</pre>	$\sum_{i=1}^n i^3 = \left(rac{n(n+1)}{2} ight)^2$	<ul> <li>Block cells are written between lines of \$     the options will be on the first line.</li> </ul>
<pre>\$\$ amath, right a^2 + b^2 = c^2 \$\$</pre>	$a^2 + b^2 = c^2$	• You can horizontally align block cells.
<pre>\$\$ amath, max_lines = 8 1 + 2 + 3 + 4 + 5 + 6 = 21 \$\$\$</pre>	1+2+3+4+5+6=21	<ul> <li>If you forget to close a cell, it can be difficute to find the culprit. To prevent this, block cells have a max_lines parameter (by defaute). You can override this with max_lines=X.</li> </ul>