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1
2 <!DOCTYPE html>
3 <head>
4   <meta charset="utf-8">
5   <meta http-equiv="x-ua-compatible" content="ie=edge">
6   <meta name="viewport" content="width=device-width">
7   <title>MathJax v3 with TeX input and HTML output</title>
8   <script src="https://polyfill.io/v3/polyfill.min.js?features=es6"></script>
9   <script>
10    MathJax = {
11      tex: {inlineMath: [['$', '$'], ['\(', '\)']]}
12    };
13  </script>
14  <script id="MathJax-script" async src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-ctml.js"></script>
15 </head>
16 <body>
17   <h1>MathJax v3 beta: TeX input, HTML output test</h1>
18
19   <p>
20     When  $a \neq 0$ , there are two solutions to  $ax^2 + bx + c = 0$  and they are
21      $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ .
22   </p>
23
24   <h2>The Lorenz Equations</h2>
25
26   <p>
27     
$$\begin{aligned} \dot{x} &= \sigma(y-x) \\ \dot{y} &= \rho x - y - xz \\ \dot{z} &= -\beta z + xy \end{aligned}$$

28   </p>
29
30   <h2>The Cauchy-Schwarz Inequality</h2>
31
32   <p>
33     
$$\left| \sum_{k=1}^n a_k b_k \right| \leq \sqrt{\sum_{k=1}^n a_k^2} \sqrt{\sum_{k=1}^n b_k^2}$$

34   </p>
35
36   <h2>A Cross Product Formula</h2>
37
38   <p>
39     
$$\mathbf{V}_1 \times \mathbf{V}_2 = \begin{vmatrix} \mathbf{i} & \mathbf{j} & \mathbf{k} \\ \frac{\partial X}{\partial u} & \frac{\partial X}{\partial v} & 0 \\ \frac{\partial Y}{\partial u} & \frac{\partial Y}{\partial v} & 0 \end{vmatrix}$$

40   </p>
41
42   <h2>The probability of getting  $k$  heads when flipping  $n$  coins is:</h2>
43
44   <p>
45     
$$P(E) = \binom{n}{k} p^k (1-p)^{n-k}$$

46   </p>
47
48   <h2>An Identity of Ramanujan</h2>
49
50   <p>
51     
$$\frac{1}{\sqrt{5}} \left( \sqrt{5} - 1 \right) e^{\frac{25}{12} \pi i} = \prod_{j=0}^{\infty} \frac{1 + \frac{e^{-4\pi i j}}{5}}{1 + \frac{e^{-8\pi i j}}{5}}$$

52   </p>
53
54   <h2>A Rogers-Ramanujan Identity</h2>
55
56   <p>
57     
$$1 + \sum_{n=0}^{\infty} \frac{q^{n^2}}{(1-q)^{n+1}} = \prod_{n=0}^{\infty} \frac{1 - q^{5n+4}}{1 - q^{5n+3}}$$

58   </p>
59
60   <h2>Maxwell's Equations</h2>
61
62   <p>

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75   Wbegin{align}
76     \nabla \times \vec{W} - \frac{1}{c} \frac{\partial \vec{W}}{\partial t} = \frac{4\pi}{c} \vec{J}
77     \nabla \cdot \vec{W} = 4\pi \rho
78     \nabla \times \vec{W} + \frac{1}{c} \frac{\partial \vec{W}}{\partial t} =
79     \nabla \cdot \vec{W} = 0
80   Wend{align}
81 </p>
82
83 <h2>In-line Mathematics</h2>
84
85 <p>Finally, while display equations look good for a page of samples, the
86 ability to mix math and text in a paragraph is also important. This
87 expression  $\sqrt{3x-1} + (1+x)^2$  is an example of an inline equation. As
88 you see, MathJax equations can be used this way as well, without unduly
89 disturbing the spacing between lines.</p>
90
91 </body>
92 </html>

```