```
 1
 2 <h1 style="text-align: center;"> Latex Examples </h1>
 3 <div style="text-align: center;">
 4 <table style="margin-left: auto; margin-right: auto;
   text-align=center;">
 5 <tr><th>Desctiption</th> <th>Input Code</th><th>
   Output</th></tr>
 6 <tr>
 7 <td>Display math mode</td>
 8 <td>y = ax^2 + bx + c</td>
 9 <td>
10
11 $$
12 y = ax^2 + bx + c
13 $$
14 </td></tr>
15
16 <tr>
17 <td>Subscript and superscript</td>
18 <td>x_1 + y^2 + x_2^3 + a^{b^c} = 0</td>
19 <td>
20
21 $$
22 x_1 + y^2 + x_2^3 + a^{b^c} = 0
23 $$
24 </td></tr>
25
26 <tr>
27 <td>Fraction</td>
28 <td>a) \frac{23}{45}
29 b) \frac{x + y^2 - z^3 }{\frac12 + 3}</td>
30 <td>
31 a.
32
33 $$
34 \frac{23}{45}
35 $$
36 b.
37 $$
38 \frac{x + y^2 - z^3 }{\frac12 + 3}
39 $$
```

```
40 </td></tr>
41
42 <tr>
43 <td>n-th root</td>
44 <td>\sqrt{x} + \sqrt{\frac{y}{z + a}} + \sqrt[5]{\
   frac{1}{b^2}}</td>
45 <td>
46
47 $$
48 \sqrt{x} + \sqrt{\frac{y}{z + a}} + \sqrt[5]{\frac{1
   }{b^2}}
49 $$
50 </td></tr>
51
52 <tr>
53 <td>Sum and product</td>
54 <td>\sum_{i=1}^{10} x_i + \prod_{j=1}^5 y_j = 0</td>
55 <td>
56
57 $$
58 \sum_{i=1}^{10} x_i + \prod_{j=1}^5 y_j = 0
59 $$
60 </td></tr>
61
62 <tr>
63 <td>Size in Fraction (and inline math mode)</td>
64 <td>\frac{\frac12 - 2}{5 + \frac43} -
65 \frac{\displaystyle \frac12 - 2}{\displaystyle 5 + \
   frac43}
66 = 0</td>
67 <td>
68
69 $$
70 \frac{\frac12 - 2}{5 + \frac43} -
71 \frac{\displaystyle \frac12 - 2}{\displaystyle 5 + \
   frac43}
72 = 0
73 $$
74 </td></tr>
75
76 <tr>
```

```
 77 <td>Special functions</td>
 78 <td>\sin x \ne sin x</td>
 79 <td>
 80
 81 $$
 82 \sin x \ne sin x
 83 $$
 84 </td></tr>
 85
 86 <tr>
 87 <td>Matrix</td>
 88 <td>a)
 89 \begin{matrix}
 90 1 & x & \sin y \\
 91 e^{-z} & 4.97 \times 10^5 & \pm \sqrt{40132} \\
 92 \sin\theta & \cos\theta & \tan\theta
 93 \end{matrix}
 94 b)
 95 \begin{matrix}
 96 1 & 2 & 3 \\
 97 4 & 5 & 6 \\
 98 7 & 8 & 9
 99 \end{matrix}
100 </td>
101 <td>
102 a.
103
104 $$
105 \begin{matrix}
106 1 & x & \sin y \\
107 e^{-z} & 4.97 \times 10^5 & \pm \sqrt{40132} \\
108 \sin\theta & \cos\theta & \tan\theta
109 \end{matrix}
110 $$
111
112 b.
113 $$
114 \begin{matrix}
115 1 & 2 & 3 \\
116 4 & 5 & 6 \\
117 7 & 8 & 9
```

```
\end{matrix}
$$
</td></tr>

<tr>
<td>Unit Matrix</td>
<td>\begin{matrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
0 & 0 & 1
\end{matrix}
</td>
<td>

$$
\begin{matrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
0 & 0 & 1
\end{matrix}
$$
</td></tr>

<tr>
<td>Parantheses & Brackets</td>
<td>(\frac12) - \left( \frac12 \right) = 0</td>
<td>

$$
(\frac12) - \left( \frac12 \right) = 0
$$
</td></tr>

<tr>
<td>Nested</td>
<td>\log \left[1 + \left( \frac{x + \sin y}{z} -
\sqrt{a} \right)^b \right]</td>
<td>

$$
\log \left[1 + \left( \frac{x + \sin y}{z} -
```

```
\sqrt{a} \right)^b \right]
$$
</td></tr>

<tr>
<td>Operators & Symbols</td>
<td>\cdot \times \pm \mp \alpha \beta \rightarrow</td>
<td>

$$
\cdot \times \pm \mp \alpha \beta \rightarrow
$$
</td></tr>

<tr>
<td>Vectors & Matrix</td>
<td>\vec{u} \otimes \vec{v} = \mathbf{M}</td>
<td>

$$
\vec{u} \otimes \vec{v} = \mathbf{M}
$$
</td></tr>


</table>
</div>
```