Latex Example and Snippet

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\[\text{Latex Example and Snippet} \]
```

Derive circle parametric equation

$$\mathcal{V} \quad \mathcal{W}$$

```
\mathcal{V}
\mathcal{W}
```

multiple line search(matrix block)	`/\\begin{bmatrix}*\_.\{-}\\end{bmatrix}`
multiple line search	`/\\begin{bmatrix}*\_.\{-}\\end{bmatrix}`

Greek Symbols

A α \alpha	E ϵ
B β	Z ζ
Γ γ	E η
Δ δ	Θ θ
E ϵ	I ι

crazy symbols

`\cdot`	$\cdot$
`\cdots`	$\cdots$
`\ddots`	$\ddots$
`\reflectbox{$\ddots$}`	$\reflectbox{$\ddots$}$
`\vdots`	$\vdots$
`\vdots`	$\vdots$
`\frac{dy}{dx}`	$\frac{dy}{dx}$
`\dfrac{dy}{dx}`	$\dfrac{dy}{dx}$
`\frac{dy}{dx}`	$\frac{dy}{dx} = \frac{d^2y}{dx^2}$
`\dfrac{dy}{dx}`	$\dfrac{dy}{dx} = \dfrac{d^2y}{dx^2}$

```
\frac{\partial u}{\partial x} = h^2
    \left( \frac{\partial^2 u}{\partial x^2} +
    \frac{\partial^2 u}{\partial y^2} +
    \frac{\partial^2 u}{\partial z^2}
    \right)
```

$$\frac{\partial u}{\partial x} = h^2 \left(\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2} \right)$$

Table

10	20	30	40	50
0.8	28	38	48	58
28	38	48	58	68
0.7	108	118	128	99
98	108	118	128	88

```
\begin{tabular}{|c|c|c|c|c|}
\hline
10  & 20  & 30  & 40  & 50 \\ \hline
0.8 & 28  & 38  & 48  & 58 \\ \hline
28  & 38  & 48  & 58  & 68 \\ \hline
0.7 & 108 & 118 & 128 & 99 \\ \hline
98  & 108 & 118 & 128 & 88 \\ \hline
\end{tabular}
```

$$f(n) = \begin{cases} n/2 & \text{if } n \text{ is even} \\ n+1 & \text{if } n \text{ is odd} \end{cases}$$

```
f(n) =
\begin{cases}
    n/2 \quad \text{ if } n \text{ is even} \\
    n+1 \quad \text{ if } n \text{ is odd} \\
\end{cases}
```

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

```
A= \begin{bmatrix}
1 & 2 & 3\\
4 & 5 & 6\\
7 & 8 & 9
\end{bmatrix}
```

$$A = \left| \begin{array}{ccc} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{array} \right|$$

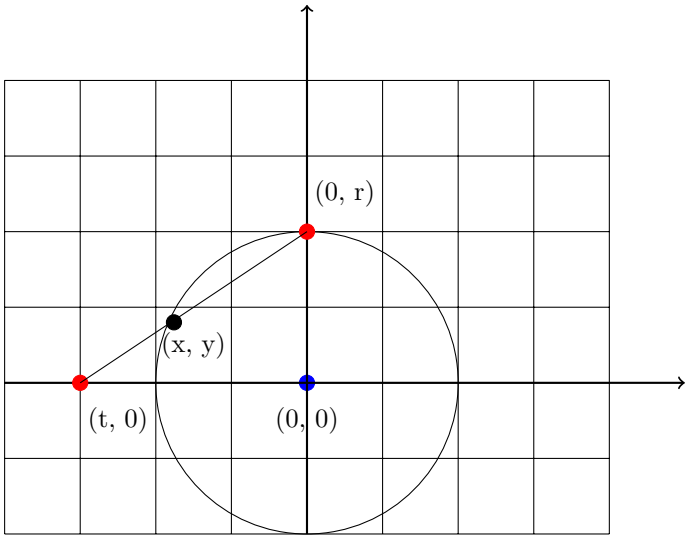
```
A= \left| \begin{array}{ccc}
1 & 2 & 3\\
4 & 5 & 6\\
7 & 8 & 9
\end{array} \right|
```

$$A = \begin{matrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{matrix}$$

```
A= \begin{matrix}
1 & 2 & 3\\
4 & 5 & 6\\
7 & 8 & 9
\end{matrix}
```

$$\left[\begin{array}{ccc|c} 1 & 2 & 3 & 1 \\ 4 & 5 & 6 & 2 \\ 7 & 8 & 10 & 5 \end{array}\right]$$

```
&\left[\begin{array}{ccc|c}
1 & 2 & 3  & 1\\
4 & 5 & 6  & 2\\
7 & 8 & 10 & 5\\
\end{array}\right]
```




```
\begin{tikzpicture}[yscale=-1]
    % 4x4 grid
    \draw (-2, 0) grid (6, 6);
    % origin point
    \draw [color=blue, fill=blue] (2, 4) circle (0.1);
    % x-axis
    \draw [thick,->] (-2, 4) -- (7, 4);
    % y-axis
    \draw [thick,->] (2, 6) -- (2, -1);
    % origin label
    \node at (2, 4.5) {(0, 0)};
    \draw (2, 4) circle (2);
    \draw [color=red, fill=red] (2, 2) circle(0.1);
    \node at (2.5, 1.5){(0, r)};
    \draw [color=red, fill=red] (-1, 4) circle(0.1);
    \node at (-0.5, 4.5){(t, 0)};
    \draw (2, 2)--(-1, 4);
    \node at (0.5, 3.5){(x, y)};
    \draw [color=black, fill=black] (0.24, 3.2) circle(0.1);
\end{tikzpicture}\\ \\
```