0.1 Text over and under symbols

0.1.1 Place text using overset & underset

```
1  \usepackage{amsmath} % align
2
3  \begin{align}
4    a \overset{why?}{=} b \\
5    a \underset{why?}{=} b
6  \end{align}
```

$$a \overset{why?}{=} b \tag{1}$$

$$a \underset{why?}{=} b \tag{2}$$

0.1.2 Remove extra spaces with mathclap

```
1  \usepackage{amsmath} % align
2  \usepackage{mathtools} % mathclap
3
4  \begin{align}
5    a \overset{
6      \mathclap{why?}
7    }{=} b \\
8    a \underset{
9      \mathclap{why?}
10   }{=} b
11 \end{align}
```

$$a \overset{why?}{=} b \tag{3}$$

$$a \underset{why?}{=} b \tag{4}$$

0.1.3 Multiple lines with substack

```
1  \usepackage{amsmath} % align, substack
2  \usepackage{mathtools} % mathclap
3
4  \begin{align}
5    a \overset{
6      \mathclap{
```

```
7          \substack{
8    why?       \\
9            how?
10         }
11       }
12   }{=} b \\
13   a \underset{
14       \mathclap{
15         \substack{
16   why?       \\
17            how?
18         }
19       }
20   }{=} b
21 \end{align}
```

$$a \overset{\substack{why? \\ how?}}{=} b \tag{5}$$

$$a \underset{\substack{why? \\ how?}}{=} b \tag{6}$$

0.1.4 Place arrows

```
1  \usepackage{amsmath} % align, substack
2  \usepackage{mathtools} % mathclap
3
4  \begin{align}
5    a \overset{
6      \mathclap{
7        \substack{
8   why?       \\
9   how?       \\
10           \downarrow
11       }
12     }
13   }{=} b     \\
14   a \underset{
15     \mathclap{
16       \substack{
17   \uparrow \\
18   why?       \\
19            how?
20       }
21     }
```

```
22    }{=} b
23 \end{align}
```

$$a \overset{\substack{why?\\how?\\\downarrow}}{=} b \tag{7}$$

$$a \underset{\substack{\uparrow\\why?\\how?}}{=} b \tag{8}$$

0.1.5   Use long arrows with \big

```
1  \usepackage{amsmath} % align, substack
2  \usepackage{mathtools} % mathclap
3
4  \begin{align}
5    a \overset{
6      \mathclap{
7        \substack{
8  why?       \\
9  how?       \\
10          \big \downarrow
11       }
12     }
13  }{=} b    \\
14  a \underset{
15     \mathclap{
16       \substack{
17  \big \uparrow \\
18  why?       \\
19         how?
20       }
21     }
22  }{=} b
23  \end{align}
```

$$a \overset{\substack{why?\\how?\\\Big\downarrow}}{=} b \tag{9}$$

$$a \underset{\substack{\Big\uparrow\\why?\\how?}}{=} b \tag{10}$$