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$$\vec{r}_i = x_i\hat{x} + y_i\hat{y} + z_i\hat{z}$$

$$\vec{r}_p = x_p\hat{x} + y_p\hat{y} + z_p\hat{z}$$

$$\boxed{\vec{r}_{ip} = \vec{r}_p - \vec{r}_i}$$

$\vec{r}_i = 2\hat{x}$

$\vec{r}_p = 1\hat{x}$

$$\vec{r}_{ip} = 1\hat{x} - 2\hat{x} = -\hat{x}$$

$\vec{r}_{ip}$ = Points to p from i

$$\hat{r}_{ip} = \frac{\vec{r}_{ip}}{|\vec{r}_{ip}|}$$

$$\vec{r}_i = x_i \cdot \hat{i} + y_i \cdot \hat{j} + z_i \cdot \hat{k}$$

$$\vec{r}_p = x_p \hat{i} + y_p \hat{j} + z_p \hat{k}$$

$$\vec{r}_{ip} = \vec{r}_p - \vec{r}_i$$

$$\hat{r}_{ip} = \frac{\vec{r}_{ip}}{|\vec{r}_{ip}|}$$

$$|\vec{r}_{ip}| = \sqrt{\vec{r}_{ip} \cdot \vec{r}_{ip}}$$

$$|\vec{r}_{ip}| = \sqrt{(x_p - x_i)^2 + (y_p - y_i)^2 + (z_p - z_i)^2}$$