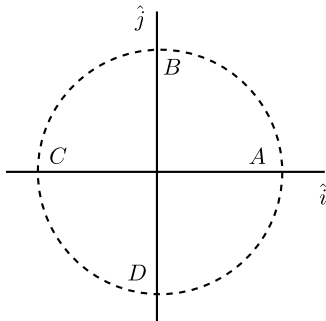


The Moon orbits the Earth in a roughly circular orbit. To calculate the force the Earth exerts on the Moon, you need to know the direction of the separation unit vector ( $\hat{r}$ ) and the gravitational force unit vector ( $\hat{F}$ ). For locations A-D, find  $\hat{r}$  and  $\hat{F}$ .



At A:

$$\hat{r} = \langle \text{[ ]}, \text{[ ]}, \text{[ ]} \rangle$$

$$\hat{F} = \langle \text{[ ]}, \text{[ ]}, \text{[ ]} \rangle$$

At C:

$$\hat{r} = \langle \text{[ ]}, \text{[ ]}, \text{[ ]} \rangle$$

$$\hat{F} = \langle \text{[ ]}, \text{[ ]}, \text{[ ]} \rangle$$