Displacement of $R \to G$

$= -3\hat{i} - 5\hat{j}$.

Displ. of $G \to Y$

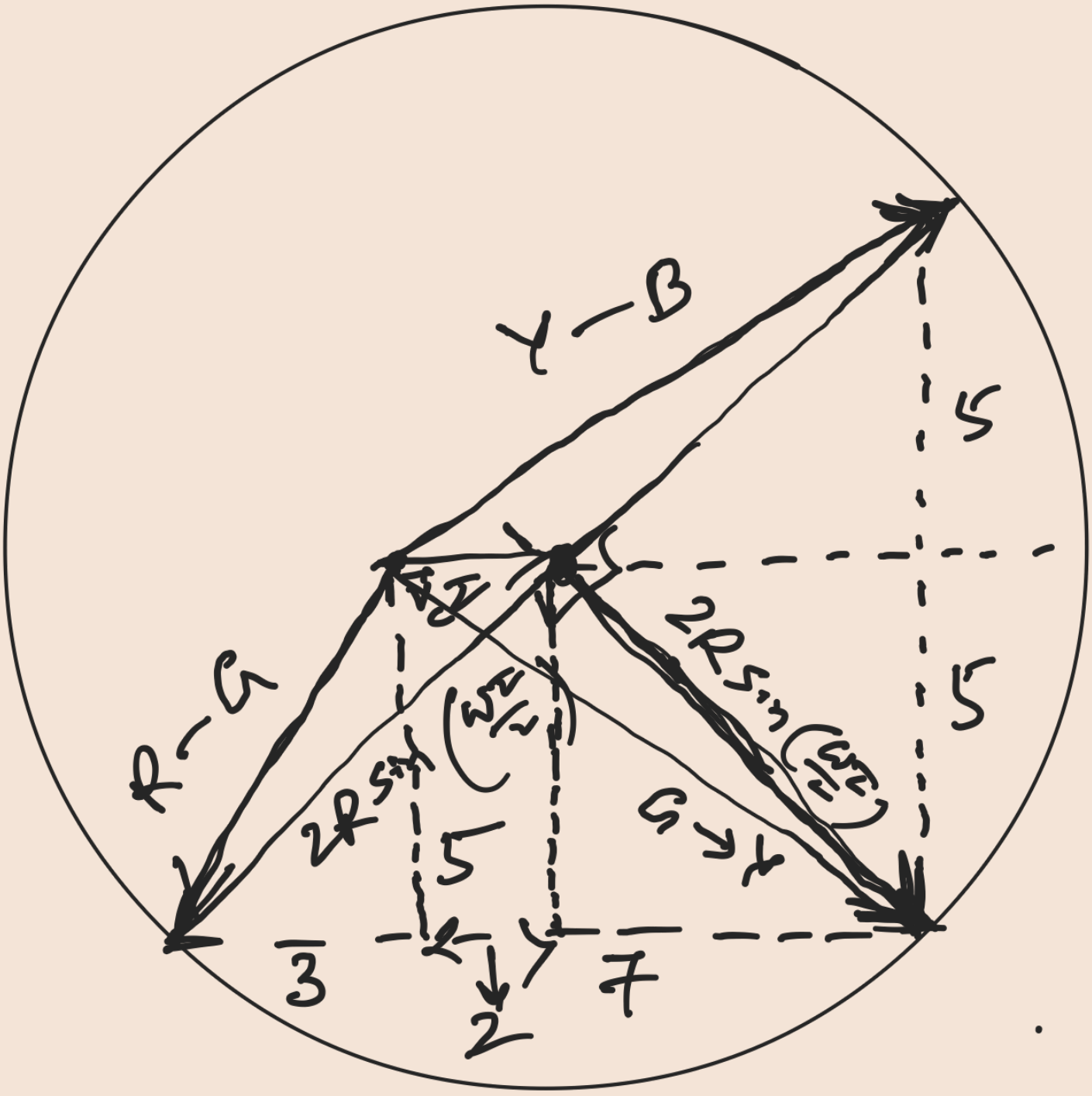
$= 7\hat{i} - 5\hat{j}$.

Displ. of $Y \to B$

$= 7\hat{i} + 5\hat{j}$

As we know, all the vectors of magnitude $2R \sin\left(\frac{\omega T}{2}\right)$ must lie on a circle.

Hence,

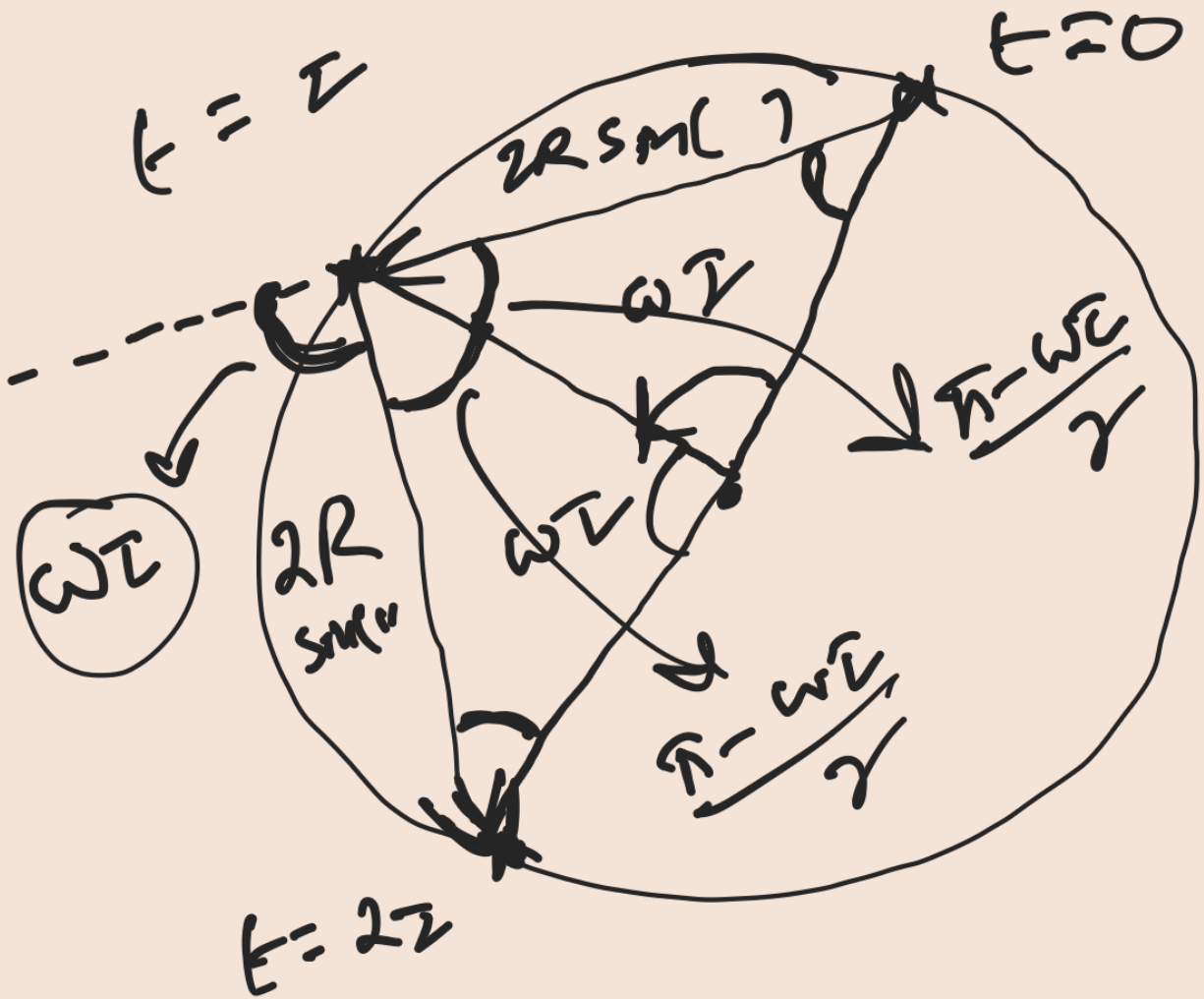


The above diagram is drawn in accordance to the data of displacements obtained

from Graph.

$$2R \sin\left(\frac{\omega}{2}\right) = 5\sqrt{2}$$

$V_c = 2 m/s$. Now, the angle between any two $2R \sin\left(\frac{\omega\Sigma}{2}\right)$ vectors must be $\omega\Sigma$



The above diagram is actual representation of the lamp at three successive instants of flashing, drawn from disc frame.

So, from the displ. vector diagram drawn before, $\omega T = \frac{\pi}{2}$

$\omega = 0.5\pi$ rad/s. So,

$2R \times \frac{1}{\sqrt{2}} = 5\sqrt{2}$ $R = 5$ cm.