

A person standing at a fixed origin O observes an insect taking off from a point A on horizontal ground.

$$\mathbf{r} = (t+1)\mathbf{i} + \left(2t + \frac{1}{2}\right)\mathbf{j} + 2t\mathbf{k}.$$

iii. ... the angle between the flight path and the horizontal ground.

$$\boxed{A\left(1, \frac{1}{2}, 0\right)}, \boxed{\text{bearing} \approx 027^{\circ}}, \boxed{\theta \approx 42^{\circ}}, \boxed{\sqrt{5}}, \boxed{C\left(11, \frac{41}{2}, 20\right)}$$
