Ch 3 - Page 92 - Practice Problems B – Resolving Vectors

1. How fast must a truck travel to stay beneath an airplane that is moving 105 km/h at an angle of 25° to the ground?
2. What is the magnitude of the vertical component of the velocity of the plane in item 1?
3. A truck drives up a hill with a 15° incline. If the truck has a constant speed of 22 m/s, what are the horizontal and vertical components of the truck’s velocity?
4. What are the horizontal and vertical components of the cat’s displacement when the cat has climbed 5 m directly up a tree?