2 **(a)** A truck moves with a constant acceleration. The speed of the truck increases from 13 m / s to 22 m / s. The time taken for this increase in speed is 4.5 s. The mass of the truck is 3700 kg.

(i) Calculate the resultant force acting on the truck.

resultant force = ... [3]

(ii) The engine of the truck provides the forward force on the truck. State **two** forces acting on the truck in the opposite direction to the forward force.

.....

.....

..... [2]

(b) Fig. 2.1 shows a car as it travels round a circular racing track.

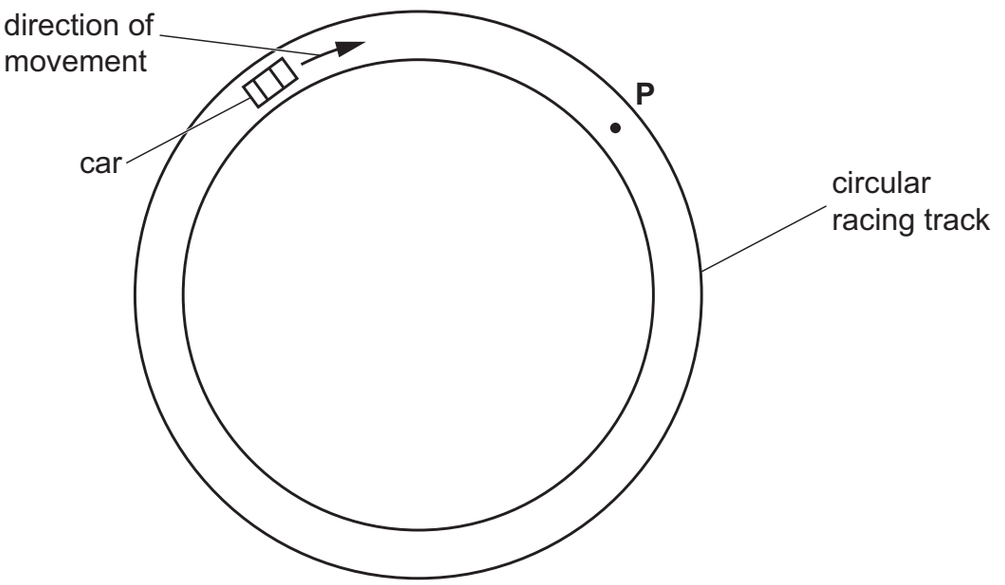

Fig. 2.1

(i) The car travels at constant speed.

On Fig. 2.1, draw an arrow to show the direction of the force acting on the car. [1]

(ii) A different car travels around the same track and slides off the track at point P.

State **two** possible reasons that cause the car to slide off the track.

.....

.....

.....

..... [2]

[Total: 8]