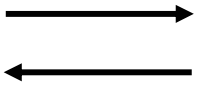
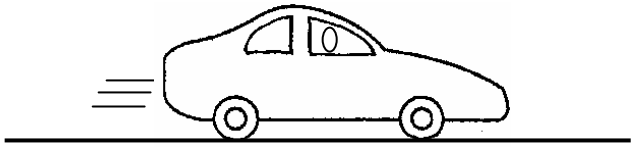
5

We can think of the forces acting on a car when it is moving as:

- the **driving force** caused by the engine
- the **counter force** caused by air resistance and friction



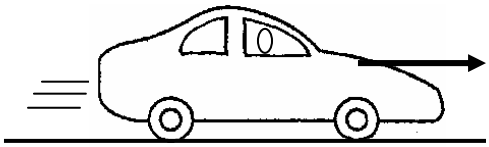


The **total force** on the car is the sum of these two forces.

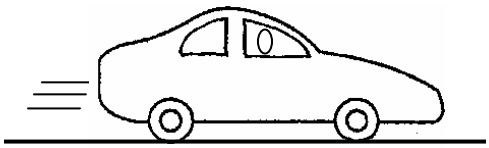
(a) A driver has just left a 30 mph zone and is **speeding up**. Which of the following best describes the total force acting on the car while it is **speeding up**?

Tick ONE box (✓)

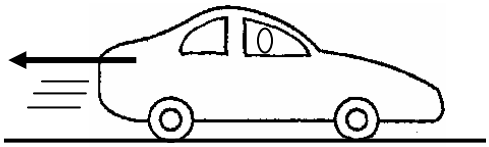
☐ The total force is **forwards**.



☐ The total force is **zero**.



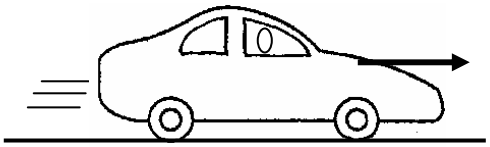
☐ The total force is **backwards**.



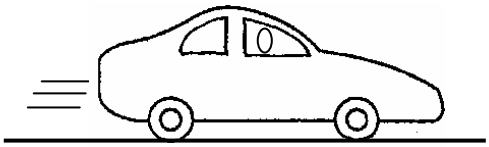
(b) The car is travelling along a level road at a steady speed.
Which of the following best describes the total force acting on the car while it is travelling **at a steady speed**?

Tick ONE box (✓)

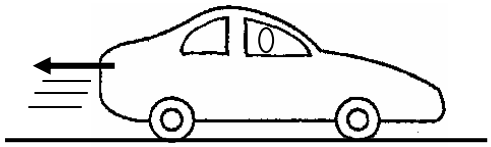
☐ The total force is **forwards**.



☐ The total force is **zero**.



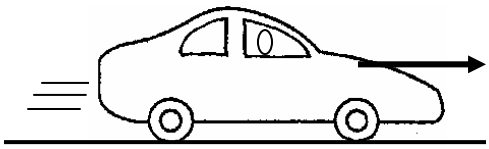
☐ The total force is **backwards**.



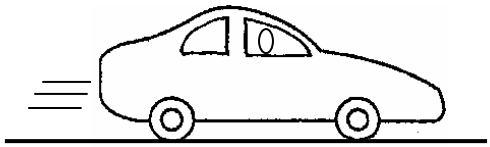
(c) The driver is now approaching a village where there is a 30 mph speed limit. She is **slowing down** from 60 mph to 30 mph, to go through the village.
Which of the following best describes the total force on the car, **while it is slowing down**?

Tick ONE box (✓)

☐ The total force is **forwards**.



☐ The total force is **zero**.



☐ The total force is **backwards**.