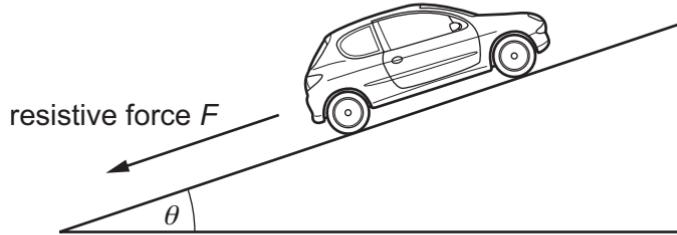


- 14 A car of mass  $m$  travels at constant speed up a slope at an angle  $\theta$  to the horizontal, as shown in the diagram. Air resistance and friction provide a resistive force  $F$ . The acceleration of free fall is  $g$ .



What is the force needed to propel the car at this constant speed?

- A  $mg \cos \theta$
- B  $mg \sin \theta$
- C  $mg \cos \theta + F$
- D  $mg \sin \theta + F$