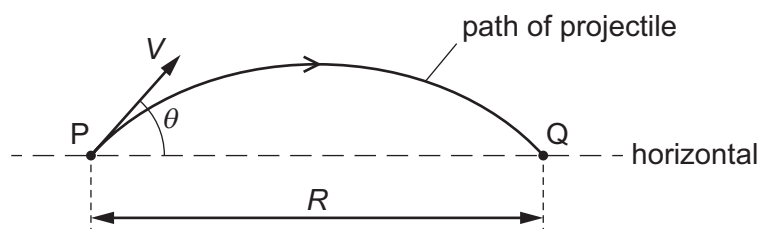


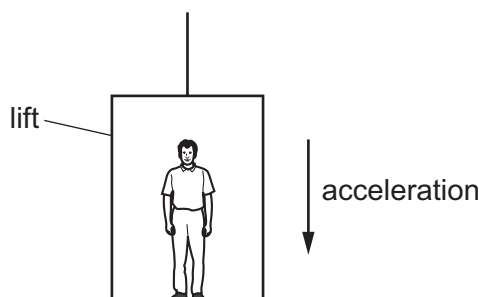
- 6 A projectile is fired from point P with velocity V at an angle θ to the horizontal. It lands at point Q, a horizontal distance R from P, after time T .



The acceleration of free fall is g . Air resistance is negligible.

Which equation is correct?

- A $R = VT \cos \theta$
 - B $R = VT \sin \theta$
 - C $R = VT \cos \theta - \frac{1}{2} g T^2$
 - D $R = VT \sin \theta - \frac{1}{2} g T^2$
- 7 A man stands in a lift that is accelerating vertically downwards, as shown.



Which statement describes the force exerted by the man on the floor?

- A It is equal to the weight of the man.
 - B It is greater than the force exerted by the floor on the man.
 - C It is less than the force exerted by the floor on the man.
 - D It is less than the weight of the man.
- 8 A ball of mass 200 g is thrown horizontally with a speed of 20 m s^{-1} against a vertical wall.

The ball is in contact with the wall for a time of 0.10 s before rebounding back along its original path with a speed of 10 m s^{-1} .

What is the average force exerted by the wall on the ball during the collision?

- A 20 N
- B 60 N
- C 20 kN
- D 60 kN