p. 2 Formula incorrect in box $s = v_o t + \frac{1}{2}at^2$

$$v = v_o + at$$
$$s = v_o t + \frac{1}{2}at^2$$
$$v^2 = v_o{}^2 + 2as$$

p. 51

8 (a) 2.2 ms^{-1} at 31° above horizontal (b) 0.85 m (c) 1.6 m

p. 54

8. v = 5.0 ms^{-1}, m_B = 3.1 kg

p. 75

$$v = v_o + at$$
$$s = v_o t + \frac{1}{2}at^2$$
$$v^2 = v_o{}^2 + 2as$$

p. 82

Since the magnetic force acting on a charged particle is mutually perpendicular to both the external magnetic field, $\vec{B}$, and velocity, $\vec{v}$, the acceleration that results from the external force does not cause a change in speed in the particle but only a change in direction. Therefore, the charged particle undergoes **uniform circular motion**.

p. 85

3. A straight conductor carries a current *I*. The magnetic field strength at point S due to the current-carrying conductor has magnitude *3B*. The magnetic field strength at point T due to the current-carrying conductor has magnitude *B*.

p. 86

(c) Hence determine the radius of the circular path taken by a proton.

(d) An alpha particle has twice the charge of a proton and a mass of 6.64×10^{-27} kg. Explain how the radius of an alpha particle would differ from the proton if it moved at the same speed.

7. A proton of mass $1.67 \times 10^{-27}\ kg$ enters a uniform magnetic field of strength 630 µT perpendicularly and moves in a circular path of radius 8.78 m.

p. 109

(b) $5.4 \times 10^{4}\ NC^{-1}$ directed vertically upwards.

7. $500\, NC^{-1}$ directed 30° below horizontal.

p. 110

2. (d) 8.96×10^{-12} J