

National 5 Physics
Exam Skills
Skill 1: Solutions

1. (a) 12 V (1)
(b) 50.8 Hz (1)
(c) 7.1×10^{-7} m (1)
(d) 3×10^8 ms⁻¹ (1)

2. (a) 2 s.f. (1)
(b) 2.6×10^4 Bq (1)

3. $V = IR$ (1)
 $8.95 = 25 \times 10^{-3} \times R$ (1)
 $R = 360 \Omega$ (2 s.f.) (1)

4. (a) (i) $W = mg$ (1)
 $W = 1.3 \times 10^6 \times 3.7$ (1)
 $W = 4.8 \times 10^6$ N (1) (2 s.f.)

5. (a) $v = f\lambda$ (1)
 $3.0 \times 10^8 = 153 \times 10^6 \times \lambda$ (1)
 $\lambda = 2.0$ m (1) (2 s.f. since $v = 3.0 \times 10^8$ ms⁻¹ from the data sheet)

6. (a) $E_h = cm\Delta T$ (1)
 $E_h = 810 \times 2.5 \times (250 - 22)$ (1)
 $E_h = 4.6 \times 10^5$ J (1) (2 s.f.)

Total Marks: 18