

OTHER OPTIONS FOR PHYSICAL SCIENCES P1

3.4 If used option 2 in 3.3 and uses the value in 3.4 option 2 APPLY positive marking

4.1.2, 4.2.1 ACCEPT principle of conservation of momentum

4.2.2 ACCEPT Principle of conservation of

4.3 OPTION 2

$$(m_1 + m_2)v_i = m_1v_{1f} + m_2v_{2f} \quad W_{net} = \Delta E_k$$

both equations must be there for a learner to have a tick.

both equations 1 mark  
let velocity of  $m_1 = x$  and  $m_2 = y$

alby vergelykings 1 punt  
laat snelheid van  $m_1 = x$  en  $m_2 = y$

$$\checkmark 0 = 0,4x + 1,2(-y) \checkmark$$

$$x = 3y$$

$$\checkmark \left( \frac{1}{4} \times 0,225 \right) = \frac{1}{2} (1,2)v_f^2 - \frac{1}{2} (1,2)0^2 \checkmark$$

$$v_f = 0,31 \text{ m's}^{-1}$$

$$E_{K m1} = \frac{1}{2} m_1 (3y)^2 \text{ or } \frac{1}{2} 0,4 (3y)^2$$

$$E_{K m2} = \frac{1}{2} m_2 (y)^2 \text{ or } \frac{1}{2} 1,2 y^2$$

$$E_{K m1} : E_{K m2} = 3:1 \checkmark$$

(6)

8.2  $R // = \frac{R_1 R_2}{R_1 + R_2} \checkmark$

$$R // = \frac{2 \times 2}{2 + 2} \checkmark$$

$$= 1 \Omega$$

9.3 OPTION 2

$$P = \frac{W}{\Delta t} \checkmark$$

$$P = \frac{3 \times 0,8 \times 1}{2} = 1,2W \checkmark$$

$$P = V \times I \checkmark$$

$$V \times I \times \frac{80}{100} = 1,2 \checkmark$$

$$6 \times I \times \frac{80}{100} = 1,2$$

$$I = 0,25 \text{ A} \checkmark$$

2.4 J

$$W = V I \Delta t$$

$$1,92 = 6(2)(2)$$

10.4 Accept cosine graph for 1 cycle

$$P = 1,2W$$

$$P = \frac{W}{\Delta t}$$

$$W = 2,4$$