

REVISED MARKING SCHEME
P3 Q1 2016 TRIAL EXAMS FIZIK
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Q1 (b)

Tabulation of n, a, F

Given $m = 2 \text{ kg}$

No of elastic band, n	Acceleration, a / ms^{-2}	Force, F / N
1	$u = 0.078/0.2 = 0.39 \text{ ms}^{-1}$ $v = 0.09/0.2 = 0.45 \text{ ms}^{-1}$ $a = (0.45 - 0.39)/0.2 = \mathbf{0.30}$	$F = ma = 2 \times 0.3 = \mathbf{0.6}$
2	$u = 0.074/0.2 = 0.37 \text{ ms}^{-1}$ $v = 0.098/0.2 = 0.49 \text{ ms}^{-1}$ $a = (0.49 - 0.37)/0.2 = \mathbf{0.60}$	$F = ma = 2 \times 0.60 = \mathbf{1.2}$
3	$u = 0.066/0.2 = 0.33 \text{ ms}^{-1}$ $v = 0.102/0.2 = 0.51 \text{ ms}^{-1}$ $a = (0.51 - 0.33)/0.2 = \mathbf{0.90}$	$F = ma = 2 \times 0.90 = \mathbf{1.8}$
4	$u = 0.062/0.2 = 0.31 \text{ ms}^{-1}$ $v = 0.110/0.2 = 0.55 \text{ ms}^{-1}$ $a = (0.55 - 0.31)/0.2 = \mathbf{1.20}$	$F = ma = 2 \times 1.2 = \mathbf{2.4}$
5	$u = 0.054/0.2 = 0.27 \text{ ms}^{-1}$ $v = 0.114/0.2 = 0.57 \text{ ms}^{-1}$ $a = (0.57 - 0.27)/0.2 = \mathbf{1.50}$	$F = ma = 2 \times 1.5 = \mathbf{3.0}$

All 5 values correct with consistency in the number of decimal places

Note: 10 ticks per tape → time = 0.2s and not 0.02s

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