



# **Mark Scheme (Results)**

**Summer 2017**

**Pearson Edexcel International GCSE  
in Physics (4PH0) Paper 2P**

**Pearson Edexcel Level 1/Level 2 Certificate  
in Physics (KPH0) Paper 2P**



Question number	Answer	Notes	Marks
7 (a) (i)	momentum = mass x velocity;	in words or accepted symbols e.g. $p = m \times v$	1
(ii)	substitution; evaluation; unit;  e.g. ( $p =$ ) $0.000\,035 \times 8.8$ ( $p =$ ) $0.00031$ kg m/s	-1 for power of ten (POT) error kg m/s or Ns  $3.08 \times 10^{-4}$ , $0.000308$ Ns allow $0.308$ g m/s for 3 marks	3
(b) (i)	gravitational (potential) energy = mass x g x height;	allow in standard symbols or in words e.g. $GPE = m \times g \times h$ reject 'gravity' for g	1
(ii)	substitution; evaluation;  e.g. ( $GPE =$ ) $0.000\,035 \times 10 \times 1200$ ( $GPE =$ ) $0.42$ (J)	allow use of $g=9.8 / 9.81$ $420$ (J) gets 1 mark max.  allow $0.4116$ , $0.41202$	2
(iii)	same answer as (b)(ii);	allow $0.42$ (J)	1
(c) (i)	$KE = \frac{1}{2} \times m \times v^2$ ;	allow in accepted symbols or words	1
(ii)	substitution; rearrangement; evaluation;  e.g. $0.42 = \frac{0.000\,035 \times v^2}{2}$ $v^2 = 24000$ ( $v =$ ) $155$ (m/s)	ECF from (b)(iii)  answer must be seen to at least 3 s.f. award 2 marks max. for reverse calculation of $KE = 0.394$ (J)  $154.919...$	3
(iii)	any 2 of: MP1. (raindrop reaches) terminal velocity; MP2. drag / air resistance / friction acts; MP3. energy lost to surroundings / eq.; MP4. (resultant) downwards force is less;	ignore unqualified "it loses energy"  allow 'acceleration is less'	2

Total for question 7 = 14 marks