

Cambridge International Examinations Cambridge Ordinary Level

PHYSICS

5054/42 May/June 2016

Paper 4 Alternative to Practical MARK SCHEME Maximum Mark: 30

Published

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Ρ	age 2	Mark Scheme	Syllabus	Paper
		Cambridge O Level – May/June 2016	5054	42
1	(a) (i)	(clamp) may topple/fall/tilt/bend/turn/become less stable/becom unbalanced/move <u>clockwise</u> (to the right)	ie	B1
	(ii)	sketch showing rod turned around the other way		B1
	(b) (i)	rule vertical (by eye) with two set squares correctly used		B1
	(ii)	height (above bench) at two places same		B1
	(c) (i)	use of vertical ruler/set square/plumb line		B1
	(ii)	53 cao		B1
	(d) (i)	axes labelled quantity on both axes and unit on y-axis only and axe way round	es correct	B1
		scales linear, not awkward, start from (0,0)		B1
		points plotted accurately		B1
		smooth best fit curve drawn		B1
	(ii)	$l \times N_{av}$ seen for one pair of values from graph or table		B1
		two correct values of xy calculated and not equal comment		B1
	(iii)	less card used can use just one piece of card o.r.a		B1
2	(a) (i)	P marked at centre of AB		B1
	(ii)	correct normal at P		B1
	(iii)	ray accurately drawn at 40° to normal		B1
	(b) use	of ray box/pins/crosses/pencil dots to mark incident ray		B1
	ma	rk emergent ray with pins/crosses/pencil dots		B1
	em	ergent ray drawn through crosses/dots to prism		B1
	ray	drawn through prism to join incident and emergent rays		B1

Ρ	age 3	Mark Scheme	Syllabus	Paper
		Cambridge O Level – May/June 2016	5054	42
3	(a) (i) 540 N c.a.o unit required		B1
	(i) moving changes the reading so reading is steady/does not change is stable	e/needle	B1
	(ii) avoids parallax error (or described)		B1
	(b) (i	reading just before it changes/starts to move		D 4
		little time to take reading		B1
	(ii) to reach the box (so he can push it)		B1
4	(a) a	pparatus just fits across diameter, and		B1
	(b) w	ind thread around cylinder		B1
	W	ind <i>n</i> times where $3 \le n \le 10$		B1
	n	easure length /of string		B1
	d	ameter = $l/n\pi$		B1