

Pearson BTEC Level 2 Diploma in Aerospace and Aviation Engineering (Foundation Knowledge)

Mathematics for Engineering

Sample mark scheme

October 2015

Version 1.0

The mark scheme shows the question number, the answer, the associated assessment criteria covered in the unit specification (*Unit 4 Mathematics and Science for Engineering*) and the total mark for each item.

A screen may contain one or more items. Each item is worth 1 mark.

Question Number	Answer	Assessment Criteria	Total Mark
1	40 500	1.1	(1)
2	18, 0, -42	1.1	(1)
3	12 000	1.1	(1)
4	43.7	1.1	(1)
5	8 x 6	1.2	(1)
6	18	1.2	(1)
7	240 litres	1.3	(1)
8	2 : 3	1.4	(1)
9	8 %	1.4	(1)
10	20 000 g	1.4	(1)
11	70	1.3	(1)
12	$\frac{1}{4}$	1.4	(1)
13	360	1.4	(1)
14	20	1.4	(1)
15	8	1.4	(1)
16 (a)	4.5mm ²	1.5	(1)
16 (b)	2 x 5	1.5	(1)
17	$A = \pi r^2$	1.5	(1)
18	60	1.5	(1)
19	480 mm ³	1.5	(1)
20	$V = \frac{1}{2} bhl$	1.5	(1)
21	8	1.6	(1)
22	6	1.6	(1)
23	3	1.6	(1)
24	3x + 7y	1.7	(1)

Question Number	Answer	Knowledge Area	Mark
25	$2(3a + 4)$	1.7	(1)
26	$a = \frac{v - u}{t}$	1.7	(1)
27	21	1.7	(1)
28	$(y=4)$	2.1	(1)
	$(x=-2)$	2.1	(1)
29 (a)	2	2.1	(1)
29 (b)	$(0, -1)$	2.1	(1)
30	4	2.1	(1)
31	A	2.1	(1)
32 (a)	Position of dot $(90, 1)$	2.2	(1)
32 (b)	-1	2.2	(1)
33	C	2.2	(1)
34 (a)	constant velocity	2.2	(1)
34 (b)	Section C	2.2	(1)
34 (c)	Section A	2.2	(1)
35 (a)	0.5 m/s^2	2.2	(1)
35 (b)	150 m	2.2	(1)
36	kilograms	3.1	(1)
37	800	3.1	(1)
38	A plane is travelling on a bearing of 120° at a speed of 650 km/h	3.1	(1)
39	v (final velocity)	3.1	(1)
	s (displacement)	3.1	(1)

Question Number	Answer	Knowledge Area	Mark
40	4	3.1	(1)
41	25	3.1	(1)
42	6480	3.1	(1)
43 (a)	6000	3.1	(1)
43 (b)	6000	3.1	(1)
44 (a)	76.2	3.2	(1)
44 (b)	11	3.2	(1)
44 (c)	4	3.2	(1)
44 (d)	15	3.2	(1)
45	micro (μ)	3.2	(1)
	mega (M)	3.2	(1)
46	10 000	3.2	(1)
47	$3.875 \div 4.5$	3.2	(1)

Total = 60 Marks

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