
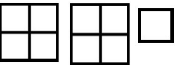


Qn	Working	Answer	Mark	Notes
1		0.23	1	B1
				Total 1 mark
2		$40ef$	1	B1
				Total 1 mark
3		$\frac{7}{10}$	1	B1 oe
				Total 1 mark
4		x^9	1	B1 cao
				Total 1 mark
5		square	1	B1
				Total 1 mark
6		$2\frac{3}{4}$	1	B1
				Total 1 mark

Qn	Working	Answer	Mark	Notes
7 (a)		14	1	B1
(b)		Cruise  Skiing 	2	B1 correct symbol for Cruise B1 correct symbols for Skiing
(c)			2	M1 $\frac{7}{a}$ where $a \geq 7$ or $\frac{b}{40}$ where $b \leq 40$
		$\frac{7}{40}$		A1 oe
				Total 5 marks

8 (a)(i)		10 or 28	1	B1 accept 10 or 28 or 10 and 28
(ii)		27	1	B1
(iii)		23	1	B1
				Total 3 marks

9 (b)(i)		3578	1	B1
(ii)		57 + 38 or 37 + 58	1	B1
				Total 2 marks

Qn	Working	Answer	Mark	Notes
10			2	M1 for $\frac{30}{48}$ oe
		$\frac{5}{8}$		A1
				Total 2 marks
11		$2c + 7d$	2	B2 (B1 for $2c$ or $7d$)
				Total 2 marks
12 (a)		3	1	B1
(b)		$8x - x^2$	1	B1 or $-x^2 + 8x$
				Total 2 marks
13	$5r = 8 + 3$ or $5r = 11$ or $-3 - 8 = -5r$ or $-11 = -5r$ or $r - \frac{3}{5} = \frac{8}{5}$ or $(8 + 3) \div 5$		2	M1 for a correct first step or for a calculation for r
		2.2		A1 oe
				Total 2 marks

Qn	Working	Answer	Mark	Notes
14	(a)(i)	27	1	B1
	(ii)	Add 5	1	B1 accept +5 or use of $5n+2$
	(b)	No and reason	1	B1 e.g. 'because the unit digit of 256 is not 2 or 7' or it is not in the form $5n+2$
				Total 3 marks
15		TV, TB, TT, NV, NB, NT, HV, HB, HT	2	B2 for all combinations with no repeats or incorrect combinations If not B2 then award B1 for at least 4 correct combinations (ignore repeats or incorrect combinations)
16	(a)	34	1	B1
	(b)	18	1	B1
				Total 2 marks
17	(a)	600	1	B1
	(b)	4.5	1	B1
				Total 2 marks

Qn	Working	Answer	Mark	Notes
18	(a)	50 000	1	B1
	(b)	6×10^{-5}	1	B1
				Total 2 marks
19	(a)(i)	(3, 4)	1	B1
	(ii)	(-1, 2)	1	B1
	(b)	Cross at (7, 2)	1	B1
	(c)	(1, 3)	2	B2 for (1, 3) (B1 for one coordinate correct)
				Total 5 marks
20	(a)	cylinder	1	B1 allow circular prism
	(b)	12	1	B1
				Total 2 marks
21		0.4, 0.407, 0.47, 0.477, 0.74	1	B1
				Total 1 mark

Qn	Working	Answer	Mark	Notes
22 (a)	eg $\frac{3}{8} \times \frac{32}{27}$ or $\frac{12}{32} \div \frac{27}{32}$		2	M1 Inverting $\frac{27}{32}$ and changing to multiply or writing both fractions with the same denominator.
	eg $\frac{3}{8} \times \frac{32}{27} = \frac{96}{216} = \frac{4}{9}$ or $\frac{12}{32} \div \frac{27}{32} = \frac{12}{27} = \frac{4}{9}$ or eg $\frac{\cancel{3}^1}{8} \times \frac{\cancel{32}^4}{\cancel{27}^9} = \frac{4}{9}$	Shown		A1 Conclusion to $\frac{4}{9}$ - either sight of the result of the multiplication eg $\frac{96}{216}$ or $\frac{48}{108}$ $\frac{24}{54}$ must be seen or fully correct cancelling must be seen prior to multiplication NB use of decimals scores no marks.
(b)	eg $\frac{40}{48} - \frac{18}{48}$ or $\frac{20}{24} - \frac{9}{24}$		2	M1 for correct fractions with a common denominator of 24 or a multiple of 24
	eg $\frac{40}{48} - \frac{18}{48} = \frac{22}{48} = \frac{11}{24}$ or $\frac{20}{24} - \frac{9}{24} = \frac{11}{24}$	Shown		A1 dep M1 for a correct answer from fully correct working.
				Total 4 marks

Qn	Working	Answer	Mark	Notes
23 (a)		15, 0, -1, 3	2	B2 for 4 correct values (B1 for 2 or 3 correct values)
(b)	(-2, 15) (-1, 8) (0, 3) (2, -1) (3, 0) (4, 3)		2	M1 (dep on B1) fit from (a) for at least 5 points plotted correctly
		correct graph		A1 for a correct graph (clear intention to go through all the points and which must be curved at the bottom) Note: If a fully correct graph is shown, but an incomplete table is shown in (a), then award the marks for (a)
				Total 4 marks

24 (d)	$k - t = 2g$ or $\frac{k}{2} = g + \frac{t}{2}$ or $\frac{k-t}{2}$		2	M1 for isolating terms in g or for correctly dividing by 2.
		$g = \frac{k-t}{2}$		A1 oe e.g. $g = \frac{k}{2} - \frac{t}{2}$
				Total 2 marks

Qn	Working	Answer	Mark	Notes
25 (a)		-2, -1, 0, 1, 2	2	B2 for -2, -1, 0, 1, 2 with no additions or repeats (B1 for 4 of -2, -1, 0, 1, 2 with no additions or repeats or for 6 values with no more than one incorrect value e.g. all of -2, -1, 0, 1, 2, 3 or for 5 values with one error)
(b)		Closed circle at $x = 1$ and a line with an arrow to the left	1	B1 for a closed circle at $x = 1$ and a line with an arrow of any length to the left Allow] for a closed circle Allow a line without an arrow if it reaches to at least -3
				Total 3 marks

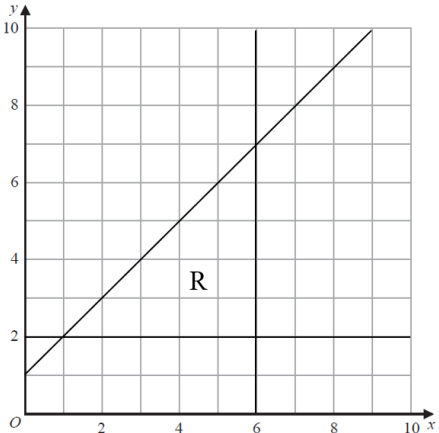
26 (a)		Isosceles	1	B1
(b)		Correct lines of symmetry drawn	1	B1 with no additional lines
(c)		5	1	B1
				Total 3 marks

27		$3(2x - 5)$	1	B1
				Total 1 mark

Qn	Working	Answer	Mark	Notes
28		$64y^6$	2	B2 for $64y^6$ (B1 for ky^6 where $k \neq 64$ or $64y^m$ where $m \neq 6$)
				Total 2 marks
29 (a)		Reflection	2	B1 for reflection with no mention of translate, enlarge, rotate, move
		$x = -1$		B1 for $x = -1$ with no mention of a vector, SF, centre or angle
(b)		Triangle drawn with vertices at (4, 2) (4, 8) (8, 2)	2	B2 for a correct enlargement (B1 for an enlarged triangle scale factor 2 in wrong position or 2 out of out 3 vertices in the correct position)
				Total 4 marks

Qn	Working	Answer	Mark	Notes
30 (a)	$4y > 12 - 5$		2	M1 Allow $y = \frac{7}{4}$ oe or $y < \frac{7}{4}$
		$y > \frac{7}{4}$		A1 oe
(b)	$12x - 10$ or $2(6x - 5) = 4x - 7$ or $6x - 5 = \frac{4}{2}x - \frac{7}{2}$ oe		3	M1 for removal of fraction and multiplying out LHS or rearranging to remove the fraction or separating fraction (RHS) in an equation
	$12x - 4x = -7 + 10$ oe or $6x - \frac{4}{2}x = -\frac{7}{2} + 5$ oe			M1 ft (dep on 4 terms) for terms in x on one side of equation and number terms on the other
		$\frac{3}{8}$		A1 (dep M1) oe
				Total 5 marks
31	$(n \pm 3)(n \pm 4)$		2	M1 for $(n \pm 3)(n \pm 4)$ or $(n + a)(n + b)$ where $ab = 12$ or $a + b = -7$ Condone use of a different letter to n
		$(n - 3)(n - 4)$		A1
				Total 2 marks

Qn	Working	Answer	Mark	Notes
32		$T = 200c - 50d$	3	B3 for $T = 200c - 50d$ oe (B2 for $T = 200c + kd$ or $T = kc - 50d$ or $200c - 50d$) (B1 for $200c$ or $-50d$ or $50d$ or $T = kc + pd$ where $k \neq 0$ or 200 and $p \neq 0$ or ± 50)
				Total 3 marks

Qn	Working	Answer	Mark	Notes
33 (a)		$y = -3x + 5$ oe	2	B2 fully correct equation eg $y = -3x + 5$ or $y - 5 = -3(x - 0)$ If not B2 then B1 for $y = -3x + a$ with $a \neq 5$ or $y = bx + 5$ ($b \neq 0, -3$) or (L =) $-3x + 5$
(b)	Lines (solid or dashed) $x = 6$ and $y = 2$ drawn		3	B1 The lines $x = 6$ and $y = 2$ should extend far enough to intersect with each other.
	Line (solid or dashed) $y = x + 1$ drawn			B1 The line should extend from at least $x = 1$ to $x = 6$ or far enough to intersect with their horizontal and vertical lines.
	Region R shown (shaded or not shaded) 	Correct region identified		B1 dep on B2
				Total 5 marks

Qn	Working	Answer	Mark	Notes
----	---------	--------	------	-------

Qn	Mean score	Max score	Mean %	Edexcel averages: scores of candidates who achieved grade:						
				ALL	5	4	3	2	1	U
1	0.96	1	96	0.96	0.99	0.96	1.00	0.94	0.64	0.67
2	0.89	1	89	0.89	0.95	0.96	0.95	0.56	0.55	0.33
3	0.87	1	87	0.87	0.96	0.85	0.82	0.81	0.55	0.33
4	0.79	1	79	0.79	0.92	0.85	0.74	0.44	0.18	0.00
5	0.84	1	84	0.84	0.98	0.85	0.73	0.54	0.29	0.00
6	0.74	1	74	0.74	0.90	0.80	0.54	0.46	0.00	0.00
7	4.47	5	89	4.47	4.79	4.83	4.33	3.57	2.63	1.66
8	1.91	2	96	1.91	1.98	1.92	1.92	1.69	1.55	1.67
9	1.88	2	94	1.88	1.93	1.92	1.94	1.94	1.37	1.00
10	1.74	2	87	1.74	1.92	1.79	1.67	1.38	1.09	0.67
11	1.63	2	82	1.63	1.91	1.77	1.51	0.50	0.73	1.33
12	1.69	2	85	1.69	1.94	1.77	1.43	1.07	0.57	0.00
13	1.41	2	71	1.41	1.86	1.70	0.77	0.56	0.18	0.00
14	2.46	3	82	2.46	2.70	2.30	2.52	2.06	2.10	1.00
15	1.62	2	81	1.62	1.88	1.54	1.57	1.15	0.29	0.00
16	1.56	2	78	1.56	1.86	1.52	1.44	1.00	0.14	0.00
17	1.50	2	75	1.50	1.81	1.47	1.28	0.81	0.90	0.66
18	1.46	2	73	1.46	1.73	1.41	1.23	1.26	0.91	0.00
19	3.75	5	75	3.75	4.29	3.52	3.60	3.15	1.29	0.50
20	1.46	2	73	1.46	1.69	1.35	1.38	1.00	0.71	0.50
21	0.65	1	65	0.65	0.87	0.64	0.46	0.25	0.09	0.33
22	2.33	4	58	2.33	3.25	2.32	1.11	1.00	0.00	0.00
23	2.09	4	52	2.09	3.01	2.08	1.13	0.88	0.27	0.00
24	1.07	2	54	1.07	1.67	0.96	0.22	0.31	0.00	0.00
25	1.46	3	49	1.46	2.16	1.42	0.82	0.43	0.00	0.00
26	1.44	3	48	1.44	1.78	1.41	1.21	0.75	0.99	0.00
27	0.51	1	51	0.51	0.78	0.45	0.23	0.25	0.00	0.00

Qn	Working			Answer			Mark	Notes
----	---------	--	--	--------	--	--	------	-------

28	0.96	2	48	0.96	1.43	0.87	0.54	0.25	0.09	0.33
29	1.68	4	42	1.68	2.74	1.28	0.69	0.43	0.27	0.00
30	1.94	5	39	1.94	3.22	1.41	0.57	0.15	0.00	0.00
31	0.67	2	34	0.67	1.17	0.55	0.15	0.00	0.00	0.00
32	0.99	3	33	0.99	1.44	0.77	0.77	0.31	0.27	0.00
33	1.02	5	42	1.02	1.91	0.43	0.22	0.00	0.00	0.00
	50.44	80	50	50.44	63.42	48.67	39.49	29.90	18.65	10.98

Suggested grade boundaries

Grade	5	4	3	2	1
Mark	56	44	35	24	15