

PiXL Pre Public Examination, June 2017, 3F, Edexcel Style Mark Scheme

Qn	Working	Answer	Mark	Notes
1		90000	1	B1 cao
2	$55 \times 3 = 165$ $2.25 \times 3 = 6.75$ $165 + 6.75 = 171.75$ $180 - 171.75 = 8.25$	Yes Ben has £8.25 left after he pays for the tickets.	3	M1 for $5 \times 3 = 165$ and $2.25 \times 3 = 6.75$ seen A1 for 171.75 seen C1 for Yes with change
3	$95 - 25 = 70$ $70 \div 2 = 35$	35g	2	M1 for $95 - 25 = 70$ A1 cao
4	(a)	term	1	B1 cao
	(b)	factor	1	B1 cao
5		2 0 5 7 35 20 5 60 15 5 13 33 52 25 23 100	3	B3 for all 7 missing entries correct B2 for 4 missing entries correct B1 for 2 missing entries correct
6	$220 \div 4 = 55$ $(40 \div 100) \times 55 = 22$ $55 - 22 = 33$ $55 \times 3 = 165$ $165 : 33$ $15 : 3$ $5 : 1$	5 : 1	4	P1 for starting process to find 1 part eg $220 \div 4$ M1 for 40% of 55 M1 for $165 : 33$ A1 cao
7	(a)	125	1	B1 cao
	(b)	2	1	B1 cao
	(c)	$6s + 3t$	2	M1 $6s$ or $3t$ seen A1 cao

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8	$55 - 12 = \text{£}43$ $(23 \div 100) \times 55 = \text{£}12.65$ $55 - 12.65 = \text{£}42.35$	Homeware is cheaper by 65p	3	M1 for $55 - 12$ M1 for finding 23% of £55 C1 for correct shop with comparison
9	$(25 + 25 + 25 + 50) \times 2 = 250$ $(50 + 50 + 50 + 25) \times 2 = 350$ $(25 + 50 + 25 + 25 + 50 + 25 + 50) = 250$	250	3	P1 for a process to find the perimeter of larger rectangle e.g. $[(25 + 25 + 25 + 50) \times 2] (= 250)$ or $[(50 + 50 + 50 + 25) \times 2] (= 350)$ or $(25 + 50 + 25 + 25 + 50 + 25 + 50) (= 250)$ M1 for a complete method to find the perimeter of at least three different rectangles e.g. "250", "250" and "350" A1 cao (dependent on M1)
10 (a)		Resultant vector shown	1	B1 cao
(b)		$\begin{pmatrix} 5 \\ 1 \end{pmatrix}$	2	M1 for subtracting two vectors A1 cao
11	$\frac{3.2 \times 10^6 + (8.6 \times 10^4)^2}{2 \times 3.2 \times 10^6}$ $\begin{array}{r} 7399200000 \\ \hline 6400000 \\ \hline 1156.125 \end{array}$	1.16×10^3	3	B1 correct substitution M1 for 7399200000 or 6400000 seen A1 cao
12 (a)		49, 22, 14, 28, 21	2	B2 for all correct entries B1 for at least 3 correct entries
(b)		$\frac{21}{49}$ or $\frac{3}{7}$	2	M1 for denominator of 49 A1 cao
13		40	2	M1 for listing multiples of 2, 5 or 8 A1 cao

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14	$11 \times 11 = 121$ $\Pi 4^2 = 50.2654\dots$ $121 - 50.2654\dots$	70.7cm^2	3	M1 for area of square or circle M1 for subtracting their two areas A1 cao
15 (a)		-4 -3 -2 -1 0 1 2	2	B1 for listing values with one error
(b)	$x + x + x + 7 + x + 7 < 64$ $4x < 50$ $x < 12.5$	12	3	B1 for listing all values M1 for forming inequality for perimeter M1 for solving inequality eg $4x < 50$ or $x < 12.5$ A1 cao
16	$(8 \times 6) \div 2 = 24$ $(8 \times 6) \div 2 = 24$ $10 \times 9 = 90$ $9 \times 6 = 54$ $8 \times 9 = 72$ $24 + 24 + 90 + 54 + 72$	264cm^2	4	M1 for area of any one face M1 for area of 3 faces M1 for area of all faces A1 cao
17	$13.2\sin 43 = 9.00237\dots$	9.00cm	3	M1 for $\sin 43 = x \div 13.2$ M1 for $13.2\sin 43 = x$ A1 cao accept 9cm
18	$(7.5 \times 2) - 12$	3	2	M1 for 7.5×2 A1 cao
19	$9 - 8 = 1$ is 6 $9 \times 6 = 54$ $3 \times 6 = 18$ $8 \times 6 = 48$	Niel 54, Dan 18 & Adam 48	3	M1 for $9 - 8 = 1$ M1 for calculating ages of Niel, Dan or Adam A1 cao
20 (a)		$x = 2$ drawn	1	B1 cao
(b)		$y = -x$ drawn	1	B1 cao
(c)	$\frac{1-4}{0-2} = 1.5$	1.5	2	M1 for method to find gradient of line A1 cao

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21 (a)	$(230 \div 2) + 230 = 345$ $(150 \div 2) + 75 = 225$ $(100 \div 2) + 50 = 150$ $(2 \div 2) + 1 = 3$	flour 345g; butter 225g; sugar 150g; eggs 3	3	M1 for working out a scale factor M1 for at least 3 ingredients correct A1 for all ingredients correct.
(b)	$1\text{kg} = 1000\text{g}$ $1000 \div (230 \div 30) = 130.434\dots$	130 biscuits	3	M1 for $1\text{kg} = 1000\text{g}$ M1 for flour need for 1 biscuit A1 cao
22	$2.5^2 + 6^2 = 42.25$ $\sqrt{42.25} = 6.5$ $6.5 - 2.5 = 4$	4cm	4	M1 for $2.5^2 + 6^2$ M1 for 6.5 M1 for $6.5 - 2.5$ A1 cao
23	$10x + 4y = 44$ $10x + 9y = 59$ $5y = 15; y = 3$ $5x + (2 \times 3) = 22$ $5x = 16$ $x = 3.2$	$x = 3.2$ $y = 3$	3	M1 for making coefficients the same for x or y M1 for subtracting and solving equation A1 for substitution and correct x or y
24 (a)	$(2.3 + 1.7) \div 2 \times 1.3 \times 1.5 = 3.9\text{m}^3$	3.9m^3	3	M1 for area of trapezium eg. 2.6 M1 for 2.6×1.5 A1 cao
(b)	$100 \times 100 \times 100 = 1000000$ $3.9 \times 1000000 = 3900000\text{m}^3$	Yes, with correct explanation	3	M1 for $100 \times 100 \times 100$ M1 for 3.9×1000000 C1 correct explanation

TOTAL FOR PAPER IS 80 MARKS