| Qn | Working | Answer | Mark | Notes |
|---|---|---|---|---|
| **PiXL Pre Public Examination, May 2018, 2F, Edexcel Style Mark Scheme** | | | | |
| 1 | | 13.3225 | 1 | B1    cao |
| 2 | | 66% | 1 | B1    cao |
| 3 | | $\dfrac{25}{44}$ | 1 | B1    cao |
| 4 | | 0.3 | 1 | B1    cao |
| 5   (a) | | 13, 21, 39, 27, 33 | 1 | B1    cao |
|     (b) | | 33 | 1 | B1    cao |
|     (c) | | 13 or 39 | 1 | B1    cao |
|     (d) | | 27 | 1 | B1    cao |
| 6 | | Yes, because the median is 4 | 2 | M1    for method to find the median<br>C1    explanation that 4 is the median and is bigger than 3. |
| 7 | $52.4 \times 1000 = 52400$<br>$52400 - 22500 = 29900$<br>$29900 \div 1000 = 29.9$ | 29.9km | 3 | P1    for starting process to convert 52.4km to metres or 22500m to km<br>P1    for 52400m or 22.5km seen<br>A1    cao |

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|---|---|---|---|---|---|---|
| 8 | (a) | | -5 and -1 | 2 | B2 | for -5 and -1 |
| | (b) | | Add 4 | 1 | B1 | cao |
| | (c) | $4n - 29 = -50$ <br> $4n = -21$ <br> $n = -5.25$ | Full explanation | 1 | C1 | nth term is $4n - 29$ ; $(4 \times -5) - 29 = -49$ |
| 9 | | | $(24 - 4) \div 2 = 10$ | 2 | B1 <br> B2 | for $(24 - 4) \div 2$ or 10 <br> for $(24 - 4) \div 2 = 10$ |
| 10 | | $1095 \div 4 = 273.75$ <br> $273.75 \times 100 = 27375$ | 27375 | 2 | M1 <br> A1 | for $1095 \div 4 = 273.75$ <br> cao |
| 11 | (a) | $50 + (33 \times 9) = 347$ mins | 5hours 47 minutes | 2 | M1 <br> A1 | for $50 + (33 \times 9)$ or 347 seen <br> cao |
| | (b) | $(554 - 50) \div 9 = 56$ | 56 tiles | 2 | M1 <br> A1 | for 554 minutes or $(554 - 50) \div 9$ <br> cao |
| 12 | (a) (i) | | Nutty Crunch | 1 | B1 | cao |
| | (ii) | | 186kj | 1 | B1 | cao |
| | (b)(i) | $510 \div 150 = 3.4$ <br> $3.4 \times 35 = 119$ | 119g | 2 | M1 <br> A1 | for $35 \div 150$ or $510 \div 150$ <br> cao |
| | (ii) | $(510 \div 150) \times 3 = 10.2$ <br> $(600 \div 150) \times 5 = 20$ <br> $20 - 10.2 = 9.8$ | 9.8g | 2 | M1 <br> A1 | for $3 \div 150$ or $510 \div 150$ or $5 \div 150$ or $600 \div 150$ <br> cao |
| 13 | (a) | | $4 : 3 : 5$ | 2 | M1 <br> A1 | for $640 : 480 : 800$ or $320 : 240 : 400$ <br> cao |
| | (b) | | 2.5 oe | 1 | A1 | cao |

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|---|---|---|---|---|---|---|---|
| 14 | (a) | | | £50 | 1 | B1 | cao |
| | (b)(i) | | | £200 | 1 | B1 | cao |
| | | (ii) | | £110 | 1 | B1 | cao |
| | (c) | | £30 is 1 hr | $12\frac{1}{3}$ hrs | 2 | M1 | for £30 is 1 hour's work |
| | | | $420 - 50 = 370$ | | | A1 | cao |
| | | | $370 \div 30 = 12.333 \ldots$ | | | | |
| 15 | | | $(180 - 38) \div 2 = 71°$ | Shown, with reasons | 4 | M1 | for method to find angle $ABC$ or $ACB$ |
| | | | $180 - 71 = 109°$ | | | M1 | for full method $(180 - 38) \div 2 = 71°$; $180 - 71 = 109°$ |
| | | | | | | C1 | for one appropriate reason |
| | | | | | | C1 | for complete set of reasons |
| 16 | | | $375.5 - 350 = 25.5$ | 7.3% | 3 | M1 | for $375.5 - 350$ or 25.5 seen |
| | | | $(25.5 \div 350) \times 100$ | | | M1 | for $(25.5 \div 350) \times 100$ |
| | | | $= 7.28 \ldots$ | | | A1 | cao |
| 17 | (a) | | | $\frac{4}{12}$ oe | 1 | B1 | cao |
| | (b) | | $63 \div 3 = 21$ is 1 part | 105 | 2 | M1 | for method to find 1 part |
| | | | $21 \times 5 = 105$ | | | A1 | cao |
| 18 | | | $0.6 \times 13 = £7.80$ | Cheaper to eat in the UK by 8p | 4 | M1 | for cost of pizza in the same currency (either $ or £) |
| | | | $7.8 \times 1.2 = £9.36$ | | | M1 | for method to find cost of one pizza including service charge |
| | | | $8 \times 1.16 = £9.28$ | | | A1 | for full method to find cost in both countries ie 9.36 and 9.28 seen oe. |
| | | | | | | C1 | statement |
| 19 | (a) | | | All 5 points plotted | 2 | B1 | for at least 2 correct points plotted |
| | | | | | | B1 | for all points plotted correctly |
| | (b) | | | 39% - 44% | 2 | B1 | for line of best that can be used to estimate percentage score on paper 2 |

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| (c) | | reason | 1 | B1 | for 39 - 44% |
| | | | | C1 | for reason, e.g. lobf can vary, data is only a sample, scale cannot be read exactly |
| (d) | | 0.8 - 1 | 2 | M1 | for method to find gradient, eg triangle drawn with "change in distance ÷ change in time |
| | | | | A1 | for 0.8 - 1 |
| (e) | | interpretation given | 1 | C1 | as the score in paper 1 increases, the score in paper 2 increases. |
| 20 (a) | | Enlargement, SF2, centre (1,3) | 2 | B1 | for enlargement and scale factor 2 |
| | | | | B1 | for centre (1,3) |
| (b) | | Reflection in $y = x$ | 2 | B1 | for reflection |
| | | | | B1 | for mirror line $y = x$ |
| 21 | $12(3x + 5) = 10(4x - 3)$ $36x + 60 = 40x - 30$ $90 = 4x; x = 22.5$ $2((4 \times 22.5) - 3) + 20 = 194$ | 194cm | 5 | P1 | for process of forming an expression for one area |
| | | | | P1 | for process of forming an equation to find value of $x$ |
| | | | | P1 | for complete process to solve the equation |
| | | | | A1 | for $4x = 90$ or $x = 22.5$ |
| | | | | B1 | ft using value of $x$ in perimeter of B |
| 22 | $\frac{5^2 - 11^2}{2\pi^2}$ $\frac{-96}{2\pi^2} = -4.86341$ | -4.9 | 3 | M1 | for substituting correctly |
| | | | | M1 | for -96 or 19.73… seen |
| | | | | A1 | cao |
| 23 | $(1 \times 10) + (3 \times 8) +$ $(5.5 \times 5) + (8.5 \times 3) +$ $(12 \times 4) = 135$ $135 \div 30 = 4.5$ | 5 | 3 | M1 | for $f \times x$ using midpoints |
| | | | | M1 | for $\Sigma fx \div 30$ |
| | | | | A1 | cao |
| 24 | $13.6^2 + 9.3^2 = 271.4$ $\sqrt{271.45} = 16.47573974$ $16.47573974 - 9.3 =$ $7.175739741$ | 7.18cm | 4 | P1 | starts process eg. Pythagoras theorem |
| | | | | P1 | for 271.4 seen |
| | | | | P1 | for subtracting radius from their answer |
| | | | | A1 | cao |

**TOTAL FOR PAPER IS 80 MARKS**