

PiXL Practice Paper, June 2018, 3F, Edexcel Style Mark Scheme

| Qn | Working | Answer | Mark | Notes |
|-----------|---|---|-------------|---|
| 1 | $7 + (5 \times 8) = 47$ | 47 | 1 | B1 cao |
| 2 | $(36 + 8) \div 2$ | 22 | 1 | B1 cao |
| 3 | | $2h + 10$ | 1 | B1 cao |
| 4 | $\frac{3}{7} + \frac{2}{7} = \frac{5}{7}; \frac{7}{7} - \frac{5}{7} = \frac{2}{7}$ | $\frac{2}{7}$ | 1 | B1 cao |
| 5 | | $\frac{7}{20} = \frac{17}{50} = 0.34$ 33% 0.325 | 2 | M1 for conversion to decimal, percentage or fraction A1 cao |
| 6 | $105 - 35 = 70$ $70 \div 2 = 35$ | 35g | 2 | M1 for $105 - 35 = 70$ A1 cao |
| 7 (a) | | 85 29 54 168 93 31 47 171 13 5 9 27 191 65 110 366 | 3 | B3 for all 6 correct entries B2 for 4 correct entries B1 for 2 correct entries |
| (b) | | $\frac{178}{339}$ | 2 | M1 for denominator of 339 A1 cao |
| 8 | $640 \div 10 = 64$ $(25 \div 100) \times 64 = 16$ $64 - 16 = 48$ $64 \times 3 = 192$ $64 \times 6 = 384$ $192 : 48 : 384$ $4 : 1 : 8$ | 4 : 1 : 8 | 4 | P1 for starting process to find 1 part eg $640 \div 10$ M1 for 25% of 64 M1 for $192 : 48 : 384$ A1 cao |
| 9 | $\frac{2}{7} \times 322 = 92$ $200 \times 0.24 = 48$ $440 \times 0.15 = 66$ | Brian picks the highest number of ripe strawberries | 4 | P1 for process to find ripe strawberries for one person P1 for a process that would lead to the number of ripe strawberries for two people P1 |

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| | | | | C1 for a process that would lead to the number of ripe strawberries for all three people 92, 48, 66 with correct conclusion |
| 10 (a) (b) | | 64 $20 - 4y$ | 1 2 | B1 cao M1 for $4y$ seen A1 cao |
| 11 | $3.68 \div 8 = 0.46$ $8.89 - (7 \times 0.46) = 5.67$ $5.67 \div 9 = 0.63$ $(4 \times 0.63) + (11 \times 0.46) = 7.58$ | £7.58 | 4 | P1 for process to find cost of 50g of cheddar $3.68 \div 8 = 0.46$ P1 for process to find cost of 450g of edam $8.89 - (7 \times 0.46) = 5.67$ P1 for complete process to find cost of 200g of edam and 550g of cheddar A1 cao |
| 12 | $(10 \times 12) \div 2 = 60$ $5 \times 3 = 15$ $60 - 15 = 45$ | 45cm^2 | 4 | M1 for converting metres to cm, ie. 10cm and 12cm M1 for area of triangle ie. 60cm^2 seen M1 for area of rectangle ie 15cm^2 seen A1 cao |
| 13 | $475 \times 1000 = 475000\text{m}$ $475000 \div 30000 = 15.83\dots\text{cm}$ | 15.83cm | 3 | M1 for 475×1000 M1 for $475000 \div 30000$ A1 cao |
| 14 (a) (b) (c) | | 254300 5.42×10^{-3} 7.5×10^{10} | 1 1 2 | B1 cao B1 cao M1 for 0.75 seen A1 cao |

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| 15 (a) | | $15t(1 - 2t)$ | 2 | M1 for not fully factorised ie. $5t(3 - 6t)$ A1 cao |
| (b) | $6d - 24 = 60$ $6d = 84 ;$ | 14 | 2 | M1 for expanding brackets or $6d = 84$ seen A1 cao |
| 16 | $(8 \times 3) \div 2 = 12$ $\pi 4^2 = 16\pi ; 16\pi \div 2 = 8\pi$ $\pi 8^2 = 64\pi ; 64\pi \div 2 = 32\pi$ $32\pi - 8\pi = 24\pi$ $24\pi + 12 = 87.398 \dots$ | 87.4cm^2 | 4 | M1 for area of triangle M1 for area of both semi circles M1 for subtracting larger semi-circle from smaller semi-circle A1 cao |
| 17 (a) | | Connecting line between -6 and 4 with hollow circle at -6 and filled circle at 4 | 2 | B1 for hollow circle at -6 or filled circle at 4 B1 for fully correct representation |
| (b) | $4(5x - 3) > 4(2x + 3) \div 2$ $20x - 12 > 4x + 6$ $16x > 18 ; x > \frac{18}{16}$ | $x > \frac{9}{8}$ | 3 | M1 for forming inequality for rectangle greater than area of triangle M1 for solving inequality eg $20x - 12 > 4x + 6$ A1 cao |
| 18 (a) | $9.3^2 + \sqrt{98.05} = 96.39202$ $96.39202 \div 0.253$ | 380.9961265 | 2 | M1 for 96.39202 seen A1 cao |
| (b) | | 380 | 1 | B1 cao |
| 19 | $\cos x = \frac{12}{17}$ $\cos^{-1} \frac{12}{17} = x$ | $x = 45^\circ$ | 3 | M1 for $\cos x = 12 \div 17$ M1 for $\cos^{-1} 12 \div 17$ A1 cao |
| 20 (a) | 675×1.45075 | 979 | 2 | M1 for 675×1.45075 A1 cao |

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| (b) | | Correct evaluation | 1 | C1 It is a sensible start to the method because he can do the calculations without a calculator and 1.5 dollars to the £ makes more sense to get comparisons |
| 21 | $6750 \times 0.97 = 6547.50$ $6547.50 \times 1.07^2 = 7496.23$ | £7496.23 | 3 | M1 for multiplier of 0.97 for the first year or 6547.5 seen M1 for multiplier of 1.07^2 for next two years A1 cao |
| 22 | $2\pi 28^2 + (\pi \times 56 \times 130)$ $1568\pi + 7280\pi = 8848\pi$ $8848\pi \div 2 = 4424\pi$ $56 \times 130 = 7280$ $4424\pi + 7280 =$ $21178.4059 \dots$ | 21178.4 cm ² | 4 | P1 for process to find surface area of cylinder P1 for halving their surface area of cylinder P1 for area of top rectangle A1 cao |
| 23 | $5525 \times 1.045^3 = 6304.942\dots$ $5525 \times 1.025 = 5663.125$ $5663.125 \times 1.045 =$ $5917.96\dots$ $5917.96\dots \times 1.065 =$ $6302.633\dots$ Account 1 is more interest by £2.30... | Account 1 with explanation | 4 | P1 for starting process to find interest of any account e.g. 5525×1.045^3 M1 for $5525 \times 1.025 = 5663.125$ or $5663.125 \times 1.045 = 5917.96\dots$ or $5917.96\dots \times 1.065 = 6302.633\dots$ M1 $6304.942\dots - 6302.633\dots$ C1 cao |
| 24 | $9x + 6y = 54$ $10x + 6y = 44$ $x = -10$ $(5 \times -10) + 3y = 22$ $y = 24$ | $x = -10$ $y = 24$ | 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 |
| 25 | | $19.75 \leq l < 19.85$ | 2 | B1 for 19.75 and 19.85 oe B1 correct interval |

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| 26 | $n + n + 1 = 37$ $2n = 36$ $n = 18$ | 18 & 19 | 3 | P1 For starting process to representing two, consecutive numbers eg. n and $n + 1$ M1 for forming an equation A1 for 18 & 19 |

TOTAL FOR PAPER IS 80 MARKS