Edexcel Year 11 Paper 2F Nov 22 Calculator Mark Scheme

Question	Answer	Marks	Notes and guidance
1a	30 042	1	
1b	1078, 1087, 1708, 1807 and 1870	2	Award 1 mark if only one value misplaced.
2	$\frac{7}{20}$	2	Award 1 mark for an equivalent fraction that is not simplified e.g. $\frac{35}{100}$
3a	3 500	1	
3b	62.8	1	
3c	e.g. • "1 hour 45 minutes = 1.75 hours" • "1.45 hours = 1 hour 27 minutes"	2	Accept any correct reason
4a	£107.75	2	Award 1 mark for a fully correct method to find total cost. e.g. $32.50 \times 2 + 14.25 \times 3$
4b	7	2	Award 1 mark for a fully correct method to find the number of tickets. e.g. $145.25 \div 20.25$
5a	7.8 cm	1	Accept answer in cm or mm Allow 7.7 to 7,9 cm or 77 to 79 mm
5b	115°	1	Allow $\pm 1°$

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6a	Fully correct ordered stem-and-leaf diagram. e.g. Key 1 | 5 means 15 1 | 5 6 7 8 8 9 2 | 1 4 6 3 | 1 7	3	Award 1 mark for a fully complete unordered stem-and-leaf diagram. Award 1 mark for a correct key.
6b	19	2	Award 1 mark for clear identification of the median being the 6th value. Follow through from their ordered stem and leaf diagram
6c	e.g. "No because the median is 19 so adding in 25 will increase the value of the median"	1	Accept "No" with any valid reason.
7	2.75 oe	2	Award 1 mark for a correct first step to find y. e.g. $4y = 11$ or $y - 2 = \frac{3}{4}$
8	e.g. $\frac{3}{8}$ of £320 because this is £120 but 17% of £600 is only £102	3	Award 1 mark for fully correct method to find either 17% of 600 or $\frac{3}{8}$ of 320 Award 2nd mark for both values correctly found
9a	$4f - 7e$	2	Award 1 mark for one correct term.
9b	-8	2	Award 1 mark for fully correct method to substitute the value for h. e.g. $\frac{3(-5)-1}{2}$

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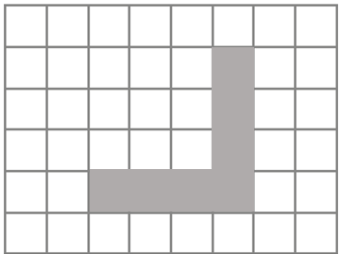
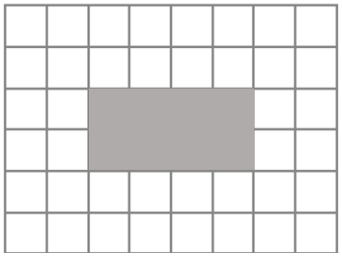
10	$\frac{1}{3}, \frac{2}{5}, \frac{1}{2}, \frac{8}{15}, \frac{5}{6}$	2	Award 1 mark if only one value misplaced or for fully correct method to compare e.g. finding equivalent fractions with a common denominator
11a	7.20	2	Award 1 mark for correctly finding the value of one sandwich. e.g. 12 ÷ 5 (= 2.40)
11b	14	2	Award 1 mark for fully correct method to calculate the number of sandwiches. e.g. 35 ÷ 2.4 (= 14.5…)
12a		2	Award 1 mark for correct diagram in incorrect orientation.
12b		2	Award 1 mark for correct diagram in incorrect orientation.

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13a	$7x - x^2 + 2xy$	2	Award 1 mark for two correct terms
13b	$36 + 8x$	2	Accept $8x + 36$ Award 1 mark for a correct unsimplified expression
14	e.g. • 15, 15, −3	2	Accept any three numbers with a sum of 27 not including 9 Award 1 mark for clear indication that the sum of the three numbers is equal to 27
15a	£850	1	
15b	(4, 380) plotted on grid	1	
15c	Negative	1	
15d	Accept answers from 620 to 700 found from a line of best fit shown.	2	Award 1 mark for answer in the correct range without line of best fit drawn OR line of best fit seen.
15e	Point (3, 210) clearly indicated	1	
16	$6n - 1$	2	Award 1 mark for any expression of the form $6n \pm k$
17	e.g. • The bars are not equal widths • The vertical axis does not increase in equal amounts • The axes are not labelled	2	Award 1 for each correct reason.

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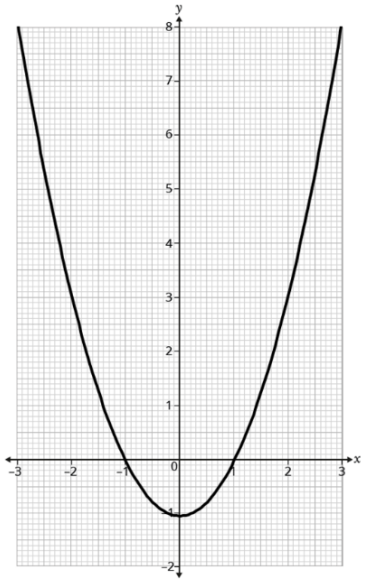
<table>
<tr><td>18</td><td>£5485.88</td><td>3</td><td>Award 2 marks for fully correct method e.g. 5200×1.018^3 or complete ‘build up’ method.
Award 1 mark for finding the interest or total after one year.</td></tr>
<tr><td>19</td><td>$119.5 \leq l < 120.5$</td><td>2</td><td>Award 1 mark for correctly identifying one bound. i.e. 119.5 or 120.5 seen.</td></tr>
<tr><td>20</td><td>$\frac{1}{5}$</td><td>1</td><td>Accept 0.2</td></tr>
<tr><td>21a</td><td><table><tr><td>x</td><td>−3</td><td>−2</td><td>−1</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>8</td><td>3</td><td>0</td><td>−1</td><td>0</td><td>3</td><td>8</td></tr></table></td><td>2</td><td>Award 1 mark for at least 2 correct values.</td></tr>
<tr><td>21b</td><td>Fully correct coordinates plotted and joined with one smooth curve.
 
</td><td>2</td><td>Award 1 mark for plotting at least 5 points from their table of values</td></tr>
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22a	3.75 hours or 3 hours 45 minutes	2	Award 1 mark for fully correct method to calculate the time taken. e.g. $3 \times 5 \div 4$
22b	e.g. Each cleaner works at the same rate	1	Accept any valid reason
23	52.8	2	Award 1 mark for fully correct method to calculate area of the sector e.g. $\frac{42}{360} \times 144\pi$
24	165 000	2	Award 1 mark for fully correct method to calculate original price. e.g. $156\,750 \div 0.95$
25	28	3	Award 1 mark for correctly calculating the base length of the triangle. e.g. $84 \div 12 = 7$ Award 2nd mark for fully correct method to find the area of the triangle using their base length. e.g. '7' $\times 8 \div 2$ $(= 28)$
26	$x = -5$ and $x = 2$	2	Award 1 mark for pair of factors found that give at least two out of three correct terms e.g. $(x + 5)(x - 2)$ or $(x - 5)(x + 2)$ or correct substitution into quadratic formula with no more than one sign error
27	64.6°	2	Award 1 mark for correct method to calculate θ seen or implied e.g. $\cos\theta = \frac{3}{7}$ or $\theta = \cos^{-1}(\frac{3}{7})$