

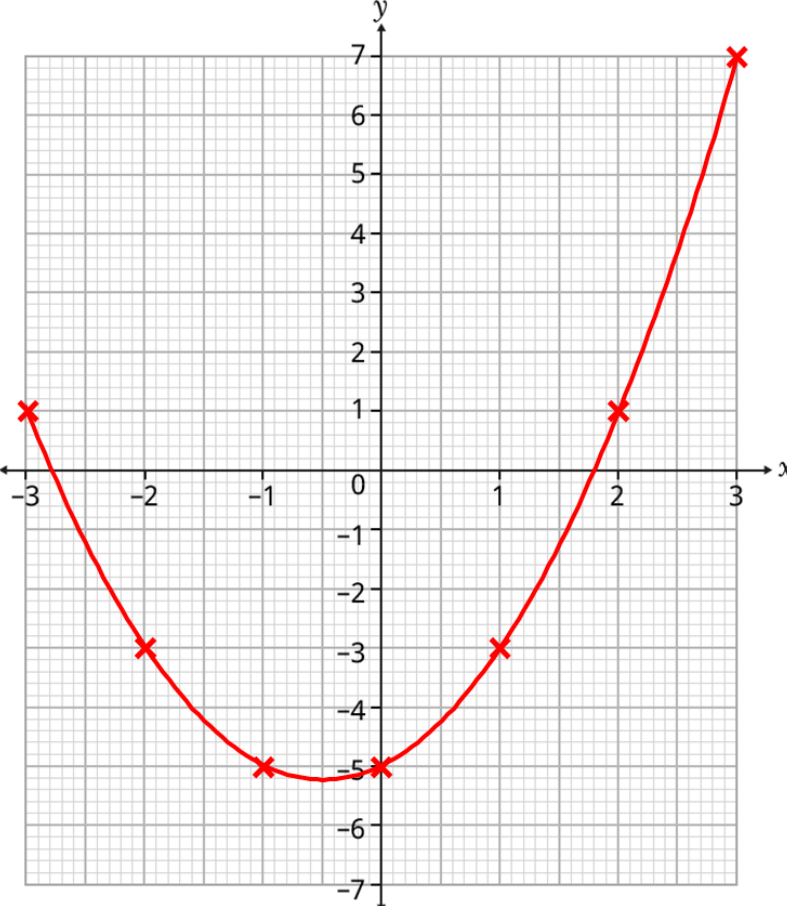
Year 11 Higher Non-Calculator Practise Paper 1 Mark Scheme

Question	Answer	Marks	Notes and guidance
1a	a	1	Allow $1a$
1b	$35ab$	1	
2	4	3	Award 1 mark for either 30% of 80 (= 24) or $\frac{4}{7}$ of 35 (= 20) correctly evaluated Award 2 nd mark for both values evaluated
3	$n > 2.5$	2	Award 1 mark for a correct first step to solve seen or implied e.g. $4n > 10$ Accept equivalent answers e.g. $n > \frac{5}{2}$
4	e.g. $2 \times 2 \times 2 \times 2 \times 3 \times 5$	2	Award 1 mark for a process to find prime factors of 240 i.e. a completed prime factor tree Accept equivalent answers
5a	43 100	1	
5b	6.52×10^{-3}	1	
5c	3.2×10^6	2	Award 1 mark for a correct method seen or implied e.g. $(9.6 \div 3) \times (10^4 \div 10^{-2})$ or $96000 \div 0.03$
6	4	1	

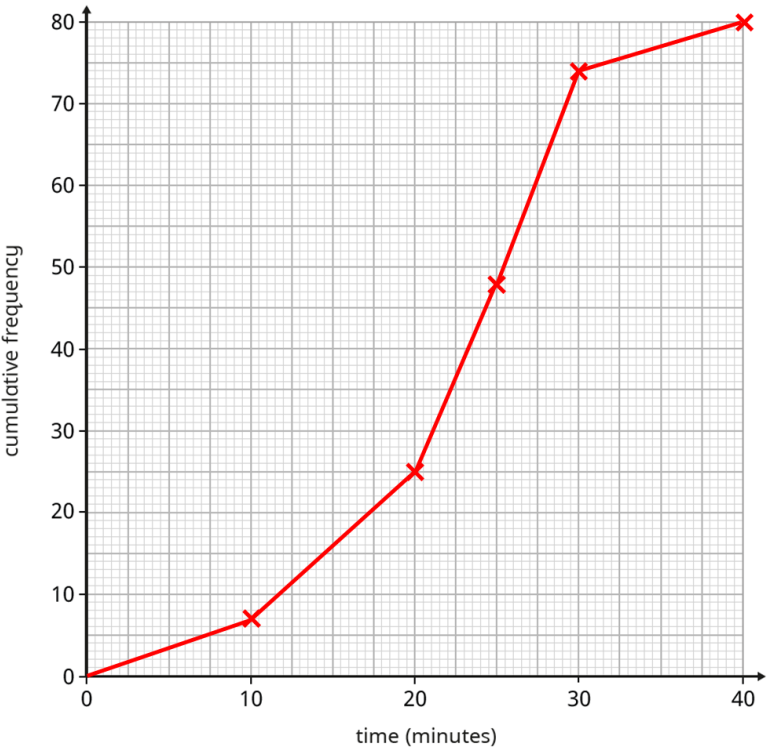
Year 11 Higher Non-Calculator Practise Paper 1 Mark Scheme

7a	$\frac{13}{40}$	2	Award 1 mark for writing each fraction as an equivalent with a common denominator i.e. $\frac{25}{40} - \frac{12}{40}$ Accept equivalent fractions not simplified as a final answer e.g. $\frac{26}{80}$																
7b	$1\frac{2}{9}$	2	Award 1 mark for $\frac{11}{5} \times \frac{5}{9}$ seen or implied																
8	13	2	Award 1 mark for $780 \div 60$ seen or implied.																
9	<table border="1"> <tbody> <tr> <td>Colour</td> <td>red</td> <td>green</td> <td>blue</td> <td>yellow</td> <td>purple</td> </tr> <tr> <td>Probability</td> <td>0.24</td> <td>0.17</td> <td>0.17</td> <td>0.17</td> <td>0.25</td> </tr> </tbody> </table>	Colour	red	green	blue	yellow	purple	Probability	0.24	0.17	0.17	0.17	0.25	2	Award 1 mark for method to find P(G or B or Y) seen or implied e.g. $1 - 0.49$				
Colour	red	green	blue	yellow	purple														
Probability	0.24	0.17	0.17	0.17	0.25														
10a	1 : 2 : 6	2	Award 1 mark for forming an equivalent ratio not its simplest form e.g. 15 : 30 : 180																
10b	£100	2	Award 1 mark for $450 \div$ their 9 seen or implied																
11	0.16	2	Award 1 mark for a correct method seen i.e. 0.4×0.4 or 0.4^2																
12a	<table border="1"> <tbody> <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>1</td> <td>-3</td> <td>-5</td> <td>-5</td> <td>-3</td> <td>1</td> <td>7</td> </tr> </tbody> </table>	x	-3	-2	-1	0	1	2	3	y	1	-3	-5	-5	-3	1	7	2	Award 1 mark for 3 correct values
x	-3	-2	-1	0	1	2	3												
y	1	-3	-5	-5	-3	1	7												

Year 11 Higher Non-Calculator Practise Paper I Mark Scheme

<p>12b</p>		<p>2</p>	<p>Award 1 mark for all points plotted from the table but not joined or all points from their table correctly plotted and joined.</p>
<p>13</p>	<p>90°</p>	<p>3</p>	<p>Award 1 mark for stating the total of the interior angles of a pentagon i.e. 540° Award 1 mark for a correct method to find the size of the other two angles e.g. $\frac{540 - (115 + 120 + 125)}{2}$</p>

Year 11 Higher Non-Calculator Practise Paper 1 Mark Scheme

14	$x = -4$ or $x = 3$	2	Award 1 mark for a correct method to solve quadratic e.g. $(x + 4)(x - 3)$ seen. Allow one slip, but their attempt at factorisation must produce at least 2 correct terms when expanded.
15	$\frac{5}{12}$	2	Award 1 mark for $\frac{3}{4} \times \frac{5}{9}$ seen or implied
16a		2	Award 1 mark for attempt to find cumulative frequencies and plot these at the end points of the class intervals

Year 11 Higher Non-Calculator Practise Paper 1 Mark Scheme

16b	c. 10	2	Award 1 mark for Upper and Lower Quartile values seen or implied from their cf graph e.g. 27.5 – 17.5
17a	108	2	Award 1 mark for a correct method seen or implied e.g. $2 \times [(3 \times 4) + (3 \times 6) \times (4 \times 6)]$
17b	e.g. $\sqrt{3^2 + 4^2 + 6^2} = \sqrt{9 + 16 + 36} = \sqrt{61}$	2	Award 1 mark for a correct use of Pythagoras' theorem to find longest diagonal; could be as shown or applied twice e.g. $\sqrt{3^2 + 4^2}$ and then $\sqrt{5^2 + 6^2}$
18	81 kg	2	Award 1 mark for subtracting 150 from their $80 \times 12 (= 960)$ seen or implied
19	$x^3 + 5x^2 - 2x - 24$	3	Award 1 mark for expanding and pair of the brackets correctly e.g. $x^2 + 7x + 12$ Award 1 mark for multiplying their quadratic by their remaining bracket seen or implied
20a	$\frac{1}{25}$	1	
20b	4	2	Award 1 mark for $(\sqrt[3]{8})^2$ or $\sqrt[3]{8^2}$ seen or implied
20c	$\frac{43}{90}$	2	Award 1 mark for a correct method seen e.g. finding $10x$, $100x$, subtracting and dividing
20d	$(\sqrt{50} + \sqrt{2})(\sqrt{50} + \sqrt{2}) = 50 + 10 + 10 + 2 = 72$ OR $(\sqrt{50} + \sqrt{2})^2 = (5\sqrt{2} + \sqrt{2})^2 = (6\sqrt{2})^2 = 72$	2	Award 1 mark for a correct use of $\sqrt{a} \times \sqrt{b} = \sqrt{ab}$ seen or implied.

Year 11 Higher Non-Calculator Practise Paper 1 Mark Scheme

21a	$y = \frac{16}{\sqrt{x}}$	2	Award 1 mark for forming a correct equation to show inverse proportionality of y and \sqrt{x} in terms of 'k' (e.g. $y\sqrt{x} = k$ or $y = \frac{k}{\sqrt{x}}$) and substituting in given values of x and y
21b	64	2	Award 1 mark for deducing $\sqrt{x} = 8$ or correct substitution of $y = 2$ into their equation of the form $y = \frac{k}{\sqrt{x}}$
22	Trapezium	1	
23	$y = -\frac{3x}{4} + \frac{25}{4}$	4	Award 1 mark for finding the gradient of OP ($= \frac{4}{3}$) Award 1 mark for finding the gradient of the tangent to the circle at P ($= -\frac{3}{4}$) i.e. negative reciprocal of their gradient of OP Award 1 mark for a correct process to obtain correct equation e.g. substituting (3, 4) into $y = mx + c$ using their gradient of the tangent Accept answer in any equivalent form.
24	c. -2.5	2	Award 1 mark for a correct method seen or implied on the diagram to find the gradient of the tangent to the curve at (-1, 3)
25	$\frac{x+6}{2x-3}$	3	Award 1 mark for a correct factorisation of the numerator e.g. $(x + 6)(x - 2)$ Award 1 mark for a correct factorisation of the denominator e.g. $(2x - 3)(x - 2)$

Year 11 Higher Non-Calculator Practise Paper 1 Mark Scheme

26	3.6 km	3	Award 1 mark for a correct method to find the area of the trapezium Award 1 mark for 3600 m seen Condone missing units
27	$3\pi - 9$	4	Award 1 mark for a correct method to find the area of sector AOB e.g. $\frac{1}{12} \times \pi \times 6^2 (= 3\pi)$ Award 1 mark for $\sin(30^\circ) = \frac{1}{2}$ seen or implied Award 1 mark for a correct method to find the area of triangle AOB e.g. $\frac{1}{2} \times 6 \times 6 \times \frac{1}{2} (= 9)$