

# GCSE Foundation Maths Practice Paper 1 (Non-Calculator)

## Edexcel Specification

### Mark Scheme

#### Types of marks:

M	method marks
P	process marks
A	accuracy marks
B	unconditional accuracy marks (independent of M marks)

#### Abbreviations:

cao	cannot accept other
ft	follow through
oe	or equivalent

#### No working:

If no working is shown, then correct answers score full marks and incorrect answers score no marks.

#### Other:

If the correct answer has **clearly** been obtained from incorrect working, award zero marks.

<b>1.</b>		<b>3 marks total</b>
a.	B1 6 cao	1 mark
b.	B1 -1 cao	1 mark
c.	B1 -2 cao	1 mark
<b>2.</b>		<b>3 marks total</b>
a.	B1 15 (ml) cao	1 mark
b.	M1 $3 = \frac{6a}{4}$ A1 $a = 2$ (months) oe	2 marks
<b>3.</b>		<b>3 marks total</b>
	A1 rotation/rotated A1 90° anti-clockwise or 270° clockwise A1 about/centre (0, 0)	3 marks
<b>4.</b>		<b>3 marks total</b>
	M1 Sensible rounding of each number. For example to 1 or 2 significant figures, such as $\frac{400 \times 10}{0.5}$ or $\frac{400 \times 12}{0.5}$ . dM1 Their numerator correctly evaluated. A1 Their fraction correctly evaluated.	3 marks

<b>5.</b>		<b>3 marks total</b>
a.	<p>M1 Attempt to add 1 to both sides.</p> $4x \geq 10$ <p>A1 <math>x \geq \frac{5}{2}</math> oe</p>	2 marks
b.	M1 3 ft	1 mark
<b>6.</b>		<b>5 marks total</b>
a.	<p>M1 <math>35 - 15</math></p> <p>A1 20</p>	2 marks
b.	<p>M1 Suitable scale on both axes.</p> <p>M1 Fully labelled axes.</p> <p>M1 Correctly drawn diagram, e.g. bar chart, time series graph.</p>	3 marks
<b>7.</b>		<b>6 marks total</b>
a.	<p>M1 for attempt to change both denominators to a multiple of 5 and 4.</p> $\frac{12}{20} + \frac{5}{20}$ <p>dA1 <math>\frac{17}{20}</math> and "No, he is incorrect".</p>	2 marks
b.	<p>M1 One or both fractions converted into improper fractions.</p> $\frac{8}{3} \times \frac{7}{4}$ <p>M1 for either <math>\frac{56}{12}</math> or cross-cancelling to get <math>\frac{2}{3} \times \frac{7}{1}</math>.</p> <p>A1 <math>4\frac{2}{3}</math> cao</p>	3 marks
c.	A1 20 cao	1 mark
<b>8.</b>		<b>6 marks total</b>
a.i.	<p>M1 for <math>360 - (110 + 50 + 90)</math></p> <p>A1 <math>110^\circ</math></p>	2 marks
ii.	<p>"Angles around a point add to <math>360^\circ</math>."</p> <p><b>Note:</b> "Angles around a point" is not sufficient enough to gain this mark; reference must be made to the fact they sum to <math>360^\circ</math>.</p> <p>Do not accept "Angles in a circle".</p>	1 marks
b.	<p>M1 <math>2y + y + 48 (= 180)</math> or <math>3y + 48 = 180</math></p> <p>M1 Attempt to subtract 48 from both sides <math>3y = 132</math>.</p> <p>A1 <math>44^\circ</math> cao</p>	3 marks

<b>9.</b>		<b>3 marks total</b>
	M1 Attempt to calculate $415 \times 12$ with no more than one error. M1 Dividing their "4980" by 1000. A1 4.98kg cao	3 marks
<b>10.</b>		<b>4 marks total</b>
a.	B1 Fully correct coordinates plotted at (8, 3000) and (3, 7500).	1 mark
b.	B1 negative cao	1 mark
c.	M1 Correct line of best fit. A1 Between £4000–£5000	2 marks
<b>11.</b>		<b>2 marks total</b>
	A2 $(x + 7)(x - 3)$ [A1 $(x \pm 7)(x \pm 3)$ ]	2 marks
<b>12.</b>		<b>4 marks total</b>
a.	M1 Correctly converting all numbers to decimal or percentage form. 0.31, 0.4, 0.28, 0.25 31%, 40%, 28%, 25% A1 for $\frac{1}{4}$ , 28%, 0.31, $\frac{2}{5}$ oe	2 marks
b.	M1 Correctly converting all numbers into the same form. $\frac{1}{5} = 20\%$ and $\frac{3}{10} = 30\%$ or $100 - (20 + 30 + 24)$ oe dA1 for 26%	2 marks
<b>13.</b>		<b>2 marks total</b>
	M1 $\frac{6}{4}$ or 1.5 or $15 \div 1.5$ A1 10cm cao	2 marks

<b>14.</b>		<b>4 marks total</b>
a.	M1 $3n$ A1 $3n + 5$	2 marks
b.	M1 $3n + 5 = 753$ A1 $n = \frac{748}{3}$ and a suitable explanation that 3 is not a factor of 748 therefore she is incorrect.	2 marks
<b>15.</b>		<b>2 marks total</b>
	A2 $4x + 8$ [A1 for expression $x + 4$ seen in absence of correct answer.]	2 marks
<b>16.</b>		<b>2 marks total</b>
	M1 $4.5 \div \frac{1}{3}$ or $4.5 \times 3$ [= 13.5 km/h] or 0.225 km/minute and 0.23km/minute seen dA1 Robert with fully correct working.	2 marks
<b>17.</b>		<b>3 marks total</b>
	M1 $\cos(60^\circ) = \frac{1}{2}$ M1 $9 \times \frac{1}{2}$ A1 4.5cm cao	3 marks
<b>18.</b>		<b>3 marks total</b>
	M1 $y + 4$ or $2y$ M1 $y + y + 4 + 2y = 32$ or $4y + 4 = 32$ A1 Alex is 7, Bella is 11 and Carla is 14.	3 marks
<b>19.</b>		<b>3 marks total</b>
	M1 $8 \times 8$ or 64 M1 $4^2 \times \pi$ or $16\pi$ A1 $(64 - 16\pi)\text{cm}^2$ oe	3 marks
<b>20.</b>		<b>3 marks total</b>
	M1 $1 - \frac{2}{5}$ [= $\frac{3}{5}$ ] M1 for $\frac{3}{5} \div 7 = \frac{3}{35}$ oe and attempt to multiply by 4. or $\frac{3}{5} \times \frac{4}{7}$ A1 for $\frac{12}{35}$ oe	3 marks

<b>21.</b>		<b>3 marks total</b>
	<p>M1 for attempt to find the gradient of the line between (30, 20) and (60, 60).</p> <p>M1 for changing time into hours.</p> $\frac{60 - 20}{1 - \frac{1}{2}}$ <p>A1 80mph cao</p>	3 marks
<b>22.</b>		<b>3 marks total</b>
	<p>M1 <math>8 = 2^3</math> or <math>8^4 = (2^3)^4</math> or <math>8^4 = 2^{12}</math> or <math>\frac{1}{2} = 2^{-1}</math></p> <p>M1 <math>12 + x = -1</math> or fully correct attempt to rearrange equation to make <math>2x</math> the subject.</p> <p>A1 <math>x = -13</math></p>	3 marks
<b>23.</b>		<b>3 marks total</b>
	<p>M1 <math>8 \times 43 [= 344]</math> or <math>18 \times 37 [= 666]</math></p> <p>M1 "666" – "344" [322] and attempt to divide by 10.</p> <p>A1 32.2 seconds cao</p>	3 marks
<b>24.</b>		<b>4 marks total</b>
	<p>M1 <math>x + y = 42</math> or <math>4x + 2y = 114</math> oe</p> <p>M1 Attempt to multiply one or both equations to create a common coefficient.</p> <p>M1 Fully correct method to calculate the value of <math>x = 15</math> or <math>y = 27</math> and attempt to substitute their <math>x</math> or <math>y</math> into one of the original equations.</p> <p>A1 goats = 15 and ducks = 27</p>	4 marks