

7. Mark schemes for Paper 1: arithmetic

Qu.	Requirement	Mark	Additional guidance
1	7,305	1m	
2	0	1m	
3	292	1m	
4	1,200	1m	
5	415	1m	
6	15.08	1m	
7	30	1m	
8	168	1m	
9	5,459	1m	
10	10,100	1m	
11	80	1m	
12	660	1m	
13	120	1m	
14	495,000	1m	
15	4,172	1m	
16	0.212	1m	

Qu.	Requirement	Mark	Additional guidance
17	<p>Award TWO marks for the correct answer of 32</p> <p>If the answer is incorrect, award ONE mark for the formal method of division with no more than ONE arithmetic error, i.e.</p> <ul style="list-style-type: none"> long division algorithm, e.g. $\begin{array}{r} 32 \text{ r}3 \\ 21 \overline{) 672} \\ \underline{- 630} \\ 45 \text{ (error)} \\ \underline{- 42} \\ 3 \end{array}$ <p>OR</p> $\begin{array}{r} 52 \text{ (error)} \\ 21 \overline{) 672} \\ \underline{- 630} \quad 30 \times 21 \\ 42 \\ \underline{- 42} \quad 2 \times 21 \\ 0 \end{array}$ <ul style="list-style-type: none"> short division algorithm, e.g. $21 \overline{) 672} \begin{array}{l} 33 \text{ (error)} \\ \underline{67}^4 2 \end{array}$	Up to 2m	<p>Working must be carried through to reach a final answer for the award of ONE mark.</p> <p>Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.</p>
18	$1\frac{1}{9}$ <p>OR</p> $\frac{10}{9}$	1m	<p>Accept equivalent mixed numbers, fractions or an exact decimal equivalent, e.g. $1.\dot{1}$ (accept any unambiguous indication of the recurring digits).</p> <p>Do not accept rounded or truncated decimals.</p>

Qu.	Requirement	Mark	Additional guidance
19	<p>Award TWO marks for the correct answer of 50,381</p> <p>If the answer is incorrect, award ONE mark for a formal method of long multiplication with no more than ONE arithmetic error, e.g.</p> <ul style="list-style-type: none"> $\begin{array}{r} 607 \\ \times 83 \\ \hline 1821 \\ 48560 \\ \hline 49381 \text{ (error)} \end{array}$ OR $\begin{array}{r} 607 \\ \times 83 \\ \hline 1822 \text{ (error)} \\ 48560 \\ \hline 50382 \end{array}$ 	Up to 2m	<p>Working must be carried through to reach a final answer for the award of ONE mark.</p> <p>Do not award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens:</p> $\begin{array}{r} 607 \\ \times 83 \\ \hline 1821 \\ 4856 \text{ (place value error)} \\ \hline 6677 \end{array}$
20	13,050	1m	
21	3	1m	<p>Accept equivalent fractions.</p> <p>Do not accept answers such as $2\frac{3}{3}$</p>
22	21	1m	
23	2.877	1m	
24	$\frac{1}{16}$	1m	<p>Accept equivalent fractions or an exact decimal equivalent, e.g. 0.0625</p> <p>Do not accept rounded or truncated decimals.</p>
25	$\frac{5}{6}$	1m	<p>Accept equivalent fractions or an exact decimal equivalent, e.g. $0.8\dot{3}$ (accept any unambiguous indication of the recurring digits).</p> <p>Do not accept rounded or truncated decimals.</p>
26	23.988	1m	
27	480	1m	Do not accept 480%
28	60	1m	Do not accept 60%

Qu.	Requirement	Mark	Additional guidance
29	<p>Award TWO marks for the correct answer of 42</p> <p>If the answer is incorrect, award ONE mark for the formal methods of division with no more than ONE arithmetic error, i.e.</p> <ul style="list-style-type: none"> long division algorithm, e.g. $\begin{array}{r} 41 \text{ r}67 \\ 73 \overline{) 3066} \\ \underline{- 2920} \\ 140 \text{ (error)} \\ \underline{- 73} \\ 67 \end{array}$ <p>OR</p> $\begin{array}{r} 32 \text{ (error)} \\ 73 \overline{) 3066} \\ \underline{- 730} \quad 10 \times 73 \\ 2336 \\ \underline{- 2190} \quad 30 \times 73 \\ 146 \\ \underline{146} \quad 2 \times 73 \\ 0 \end{array}$ <ul style="list-style-type: none"> short division algorithm, e.g. $\begin{array}{r} 41 \text{ r}71 \text{ (error)} \\ 73 \overline{) 306^{14}6} \end{array}$	Up to 2m	<p>Working must be carried through to reach a final answer for the award of ONE mark.</p> <p>Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.</p>
30	92	1m	Do not accept 92%
31	$\frac{11}{63}$	1m	<p>Accept equivalent fractions or an exact decimal equivalent, e.g. $0.\overline{174603}$ (accept any unambiguous indication of the recurring digits).</p> <p>Do not accept rounded or truncated decimals.</p>

Qu.	Requirement	Mark	Additional guidance
32	$1\frac{5}{6}$ OR $\frac{11}{6}$	1m	Accept equivalent mixed numbers, fractions or an exact decimal equivalent, e.g. $1.8\dot{3}$ (accept any unambiguous indication of the recurring digits). Do not accept rounded or truncated decimals.
33	Award TWO marks for the correct answer of 273,226 If the answer is incorrect, award ONE mark for a formal method of long multiplication with no more than ONE arithmetic error, e.g. <ul style="list-style-type: none"> • $\begin{array}{r} 4078 \\ \times \quad 67 \\ \hline 28546 \\ 244680 \\ \hline 273126 \text{ (error)} \end{array}$ OR • $\begin{array}{r} 4078 \\ \times \quad 67 \\ \hline 28544 \text{ (error)} \\ 244680 \\ \hline 273224 \end{array}$ 	Up to 2m	Working must be carried through to reach a final answer for the award of ONE mark. Do not award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens: $\begin{array}{r} 4078 \\ \times \quad 67 \\ \hline 28546 \\ 24468 \text{ (place value error)} \\ \hline 53014 \end{array}$
34	$7\frac{3}{4}$ OR $\frac{31}{4}$	1m	Accept equivalent mixed numbers, fractions or an exact decimal equivalent, e.g. 7.75 Do not accept rounded or truncated decimals.
35	8	1m	
36	320	1m	Do not accept $\frac{1600}{5}$