Fractions Past Paper Questions (MS)

Q1.

Paper 1MA1: 1F			
Question	Working	Answer	Notes
(a)		$\frac{17}{35}$	M1 for common denominators with at least one numerator correct A1
(b)		$\frac{20}{9}$	M1 for $\frac{5}{3}\times\frac{4}{3}$ or $\frac{20}{12}\div\frac{9}{12}$ A1

Q2.

PAPER: 5MB2F_01					
Question		Working	Answer	Mark	Notes
			$\frac{8}{9}$	2	M1 for using a suitable common denominator with at least one of two fractions correct A1 for $\frac{8}{9}$ or equivalent fraction

Q3.

		Working	Answer	Mark	Notes
		$\frac{3}{8} + \frac{1}{2} = \frac{3}{8} + \frac{1\times4}{2\times4}$ OR $\frac{3}{8} + \frac{1}{2} = \frac{3\times2}{8\times2} + \frac{1\times8}{2\times8}$	$\frac{7}{8}$	2	M1 for converting to two fractions with the same denominator and at least one numerator with the correct expression or number A1 for $\frac{7}{8}$ oe

Q4.

Paper 1MA1: 2F			
Question	Working	Answer	Notes
(a)			C1 for a correct evaluation of the method shown by giving at least one correct error made, eg. "didn't multiply the 1 by 5"
(b)			C1 for a correct evaluation of the method shown by giving at least one correct error made, eg. "can't split a mixed number" or "should convert to improper (oe) fractions first"

Q5.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	$\frac{95}{28}$	M1	for a method to add using common denominators with at least one fraction correct (matching numerator with common denominator) eg $\frac{60}{28}+\frac{35}{28}$ **or** $(2)\frac{4}{28}+(1)\frac{7}{28}$	Use of decimals gets no credit unless it leads to a correct fraction
		A1	$\frac{95}{28}$ oe eg $3\frac{11}{28}$	
(b)	$1\frac{3}{5}$	M1	for $\frac{6}{5}\times\frac{4}{3}$ **or** $\frac{24}{20}\div\frac{15}{20}$ **or** $\frac{8}{5}$ oe eg $1\frac{9}{15}$	Use of decimals gets no credit unless it leads to a correct fraction
		A1	cao	

Q6.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	$\frac{7}{15}$	M1	for suitable common denominator with at least one fraction out of two correct, eg $\frac{10}{15}-\frac{3}{15}$ oe	
		A1	oe	
(b)	$\frac{1}{2}$	M1	for method to multiply fractions, eg $\frac{2\times3}{3\times4}$, $\frac{8\times9}{12\times12}$ or to simplify, $\frac{1}{3}\times\frac{3}{2}$ or $\frac{2}{1}\times\frac{1}{4}$ **OR** for an answer equivalent to $\frac{1}{2}$ (unsimplified) eg $\frac{2}{4}$, 0.5	
		A1	cao	

Q7.

Question	Answer	Mark	Mark scheme	Additional guidance
	$2\frac{1}{3}$	M1	for either $\frac{7}{4}$ oe or $\frac{4}{3}$ oe	
		M1	for method to find the product, eg $\frac{7\times4}{4\times3}$ or $\frac{21\times16}{12\times12}$ oe or for $\frac{28}{12}$ or $\frac{7}{3}$ oe	
		A1	for $2\frac{1}{3}$ or an equivalent mixed number	

Q8.

Question	Answer	Mark	Mark scheme	Additional guidance
	0.35	P1	for $\left(\frac{1}{10}+\frac{3}{5}\right)\div 2$ **or** 0.1 **and** 0.6 **or** 10(%) **and** 60(%) **or** 35(%) **or** for converting to equivalent fractions with a common denominator eg $\frac{1}{10}$ **and** $\frac{6}{10}$	
		A1	for $\frac{7}{20}$ oe **or** 0.35	

Q9.

Question	Answer	Mark	Mark scheme	Additional guidance
	Shown	M1	for conversion to improper fractions eg. $\frac{7}{3}$ **or** $\frac{15}{4}$	Need not be shown with operators
		M1	(dep) for method to multiply fractions, eg. $\frac{7\times15}{3\times4}\left(=\frac{105}{12}\right)$ **or** $\frac{28\times45}{12\times12}\left(=\frac{1260}{144}\right)$ oe	
		C1	for complete working showing each stage as far as $\frac{35}{4}$ or $8\frac{9}{12}$	

Q10.

Question	Answer	Mark	Mark scheme	Additional guidance
	$1\frac{8}{15}$	M2	for a complete method, eg $4-2+\frac{3}{15}-\frac{10}{15}$ condoning error with one numerator **or** for $\frac{21}{5}-\frac{8}{3}=\frac{63}{15}-\frac{40}{15}\left(=\frac{23}{15}\right)$ with no more than one error	
		(M1	for finding two fractions with a correct common denominator, with at least one correct corresponding numerator, eg $\frac{3}{15}$, $\frac{10}{15}$ **or** for converting both to improper fractions, eg $\frac{21}{5}$, $\frac{8}{3}$)	At least one improper fraction must be correct Any equivalents must be a mixed number
		A1	$1\frac{8}{15}$ oe	

Q11.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	$\frac{7}{12}$	M1	for finding two fractions with a correct common denominator, with at	
		A1	least one correct corresponding numerator, eg. $\frac{5}{12}$, $\frac{2}{12}$	Ignore errors in cancelling following sight of an equivalent fraction to $\frac{7}{12}$
(b)	$\frac{3}{16}$	M1	for $\frac{7}{12}$ oe eg $\frac{14}{24}, \frac{21}{36}, \frac{28}{48}, \frac{35}{60}, \frac{42}{72}$, ...	
		A1	for method to multiply fractions, eg $\frac{3\times5}{10\times8}$ $(=\frac{15}{80})$ or simplifies the calculation eg $\frac{3}{2}\times\frac{1}{8}$ or for an answer equivalent to $\frac{3}{16}$ unsimplified cao	

Q12.

Question	Answer	Mark	Mark scheme	Additional guidance
20	$\frac{39}{88}$	M1	for finding the gap (A) $1-\frac{5}{8}$ $(=\frac{3}{8}=\frac{33}{88})$ **or** (C) $1-\frac{9}{11}$ $(=\frac{2}{11}=\frac{16}{88})$ **or** $\frac{5}{8}+\frac{9}{11}$ $(=\frac{55}{88}+\frac{72}{88}=\frac{127}{88})$	
		M1	for $\frac{9}{11}-\frac{3}{8}(=\frac{72}{88}-"\frac{33}{88}")$ **or** $\frac{5}{8}-\frac{2}{11}$ $(=\frac{55}{88}-"\frac{16}{88}")$ **or** $1-\frac{3}{8}-\frac{2}{11}(=1-"\frac{33}{88}"-"\frac{16}{88}")$ oe **or** $\frac{5}{8}+\frac{9}{11}-1$ $(=\frac{55}{88}+\frac{72}{88}-1)$	
		A1	oe	

Q13.

PAPER: 1MA0_2F					
Question		Working	Answer	Mark	Notes
*			$\frac{2}{3}$	3	M1 for attempting to write at least two fractions expressed with a common denominator with at least one of the two fractions correct A1 for three correct fractions with suitable common denominator C1 (dep M1) for correct conclusion from comparison of their three **OR** M1 for writing at least two of the fractions as decimals ie $\frac{2}{3}$ as 0.66(…) or 66(.6…)%, $\frac{7}{8}$ as 0.87(5) or 87.(5)%, $\frac{3}{4}$ as 0.75 or 75% A1 for three correct decimals or percentages C1 (dep M1) for correct conclusion from comparison of their three **OR** M1 for finding two fractions of the same number e.g. $\frac{2}{3}$ of 48 or $\frac{7}{8}$ of 48 (may be implied by shading a fraction of a rectangle divided into e.g. 48 parts) A1 for three correct values or three correct diagrams with shading C1 (dep M1) for correct conclusion from comparison of their three **OR** M1 for attempting to find the difference between $\frac{3}{4}$ and $\frac{2}{3}$ **and** between $\frac{3}{4}$ and $\frac{7}{8}$ at least one pair of fractions expressed with a suitable common denominator and at least one of the two fractions correct A1 for $\frac{1}{12}$ and $\frac{1}{8}$ or 0.08(333...) and 0.12(5) C1 (dep M1) for correct conclusion from comparison of the 2 differences.