Questions

Q1.

(a) Work out $\dfrac{2}{7} + \dfrac{1}{5}$

....

(2)

(b) Work out $1\dfrac{2}{3} \div \dfrac{3}{4}$

....

(2)

(Total for question = 4 marks)

Q2.

(a) Work out 17.2 + 25.8

....

(1)

(b) Work out $\dfrac{1}{4}$ × 60

....

(1)

(c) Write down the value of the 3 in 18.35

....

(1)

(Total for question = 3 marks)

Q3.

Work out $\dfrac{1}{3} + \dfrac{5}{9}$

....

(Total for question = 2 marks)

Q4.

Work out $\dfrac{2}{5} + \dfrac{3}{8}$

Give your answer in its simplest form.

....

(Total for Question is 2 marks)

Q5.

(a) Work out $1\dfrac{3}{4} + 3\dfrac{1}{2}$

....

(1)

(b) Work out $\dfrac{3}{7} \times £28$

£...

(2)

(c) Estimate the value of 19.89 × 201.71

....

(2)

(Total for question = 5 marks)

Q6.

Lethna worked out $\dfrac{2}{5} + \dfrac{1}{2}$

She wrote:

$$\frac{2}{5} + \frac{1}{2} = \frac{2}{10} + \frac{1}{10} = \frac{3}{10}$$

The answer of $\dfrac{3}{10}$ is wrong.

(a) Describe one mistake that Lethna made.

....

....

(1)

Dave worked out $1\dfrac{1}{2} \times 5\dfrac{1}{3}$

He wrote:

$$1 \times 5 = 5 \quad \text{and} \quad \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

$$\text{so} \quad 1\frac{1}{2} \times 5\frac{1}{3} = 5\frac{1}{6}$$

The answer of $5\dfrac{1}{6}$ is wrong.

(b) Describe one mistake that Dave made.

....

....

(1)

(Total for question is 2 marks)

Q7.

Work out $3\frac{4}{5} + \frac{3}{7}$

Give your answer as a mixed number in its simplest form.

....

(Total for question = 3 marks)

Q8.

A container is in the shape of a cuboid.

19 cm

6 cm

30 cm
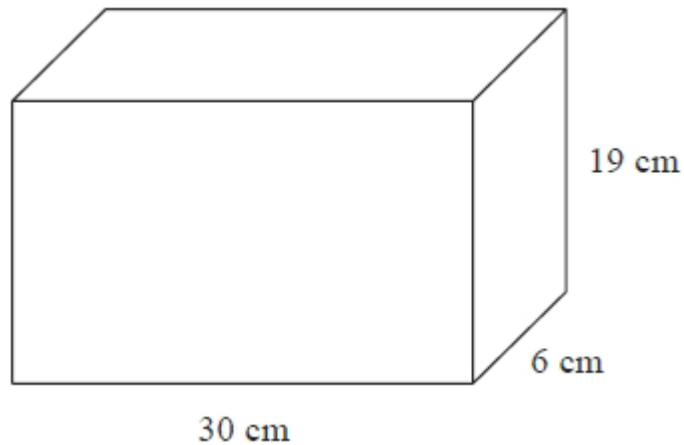
The container is $\frac{2}{3}$ full of water.

A cup holds 275 *ml* of water.

What is the greatest number of cups that can be completely filled with water from the container?

....

(Total for question = 4 marks)

Q9.

There are 120 people at a party.

$\frac{1}{3}$ of the people leave the party.

Work out the number of people still at the party.

....

(Total for question = 3 marks)

Q10.
Write 0.075 as a fraction.
Give your fraction in its simplest form.

....

(Total for question = 2 marks)

Q11.
Write 0.19 as a fraction.

....

(Total for question = 1 mark)

Q12.

Write $\dfrac{3}{5}$ as a percentage.

.... %

(Total for question = 1 mark)

Q13.
(a) Write 0.1 as a fraction.

....

(1)

(b) Write ¼ a decimal.

....

(1)

(Total for Question is 2 marks)

Q14.
(a) Write ½ as a decimal.

....

(1)

(b) Write 0.75 as a fraction.

....

(1)

(c) Write 19 out of 30 as a fraction.

....

(1)

(Total for Question is 3 marks)

Q15.

(a) Write $\dfrac{1}{2}$ as a decimal.

....

(1)

(b) Write 0.3 as a fraction.

....

(1)

(c) Write 0.8 as a percentage.

.... %

(1)

(d) Work out 7.2 × 8

....

(1)

(e) Work out $\dfrac{7}{12} - \dfrac{3}{12}$

Give your answer as a fraction in its simplest form.

....

(2)

(Total for question = 6 marks)

Q16.
(a) Write $^7/_{10}$ as a decimal.

....

(1)

(b) Write 0.45 as a percentage.

.... %

(1)

(c) Write 30% as a fraction.
Give your fraction in its simplest form.

....

(2)

(d) Write the number 2.738 correct to 2 decimal places.

....

(1)

(Total for Question is 5 marks)

17.

(a) Write ¼ as a decimal.

....

(1)

(b) Write 0.8 as a percentage.

. . . . %

(1)

(c) Write the ratio 2 : 6 in its simplest form.

....

(1)

(Total for Question is 3 marks)

Q18.
Write 0.037 as a fraction.

....

(Total for question = 1 mark)

Q1.
No Examiner's Report available for this question

Q2.

Part (a) was done well. Most students were able to add up the two decimal numbers correctly. Common incorrect answers were 42.10 and 33. Part (b) was done well. Most students knew that they had to divide

60 by 4. Many divided 60 by 2 then by 2 again. Common incorrect answers were $\frac{60}{240}$ and 45.

Part (c) was done quite well. Many students were able to write down the place value of the 3 in the decimal number. Common incorrect answers were 3 hundredths and 30.

Q3.

A good proportion of the students were able to add the two fractions correctly. The majority of those who attempted to use a suitable common denominator were successful although some made errors when writing the fractions to a common denominator. Many students, however, did not appreciate the need for

a common denominator and the most common incorrect answer was $\frac{6}{12}$, from adding the numerators and adding the denominators.

Q4.

Although the incorrect answer of $\frac{5}{13}$ was seen often, most candidates did try to use a correct method identifying 40 as a common denominator. However unless at least one numerator was correct, no credit was given. Simple arithmetical errors in the addition of 16 and 15 (eg = 21) prevented a significant number of candidates from gaining full marks. Several candidates tried to cancel the correct answer of $\frac{31}{40}$ or even convert it to a mixed number. Such additional work was not penalised.

Q5.

Part (a) was generally well done although in some cases the answer was not fully simplified. Part (b) was also well done although some candidates on obtaining an answer of 12 went on to multiply this number by 28 to get (£) 336
Part (c) was mainly done by rounding 19.89 to 20 and 201.71 to 200 eventually giving a final answer of 4000. Alternatives were to round to 202 or 201 giving answers of 4040 and 4020 respectively, both of which were accepted for both marks. Candidates who attempted to work out the accurate calculation were given no marks.

Q6.
No Examiner's Report available for this question

Q7.

Many students did attempt to make a common denominator but often they only managed to get one of the two fractions correctly converted so could only access two of the three marks available. Others added the fractions correctly but forgot to add the whole number. Some started by converting the mixed number into an improper fraction but then could not cope with 19 × 7. Others left their answer as an improper fraction.

Q8.

It was pleasing to see many good solutions to this question. There was, however, some misunderstanding of what was required. Some found the number of cups required to fill the whole container (2 marks maximum) and some found the number of cups needed to fill the final third of the container (3 marks maximum). The final accuracy mark was often not gained through not rounding down to a number of completely filled cups. Incorrect conversions between millilitres and cubic centimetres were condoned if the process was correct. A number of students converted $\frac{2}{3}$ to a decimal or a percentage. This was accepted provided the conversions were correct to two significant figures. Often weaker students worked with surface area or perimeter or found 2/3 of 275 and thus gained no credit.

Q9.

A large number of students scored a mark for 120 ÷ 3 but then gave 40 as their answer. The vast majority of students who did not score first tried to write one third as a percentage. These students tended to write this percentage as 30% (with some 33%) which meant they did not show any correct working for a method mark.

Q10.
No Examiner's Report available for this question

Q11.
No Examiner's Report available for this question

Q12.
No Examiner's Report available for this question

Q13.

Most of the candidates wrote the correct answer to part (a). The most common incorrect responses were $\frac{1}{100}$ or $\frac{0.1}{100}$.

In part (b), most of the candidates correctly wrote $\frac{1}{4}$ as 0.25. Common incorrect responses were 0.4 and 1.4, with quite a few 2.5 and even 0.75.

Q14.

Fractions often cause problems on a foundation paper but it was pleasing to see some good responses to this question. Many candidates wrote 1.2 instead of 0.5 as the decimal equivalent of ½ whilst ⁵⁄₇ or ⁷⁄₅ was often seen instead of ¾ or ⁷⁵⁄₁₀₀ or equivalent when the fractional equivalent of 0.75 was asked for. Interestingly about 4 out of 5 candidates could write 19 out of 30 as a fraction.

Q15.

Students making errors on part (a) generally used the numerator and/or denominator digits of $\frac{1}{2}$ to form their decimal answer giving 1.2, 0.12 or 0.2

In part (b) the most common error, made by nearly half of students, was to give $\frac{1}{3}$ instead of $\frac{3}{10}$ as the conversion for 0.3

About two thirds of students gave the correct 80% for 0.8 in part (c) with the vast majority of the remainder giving 8%

A variety of methods including formal and various jottings were used by successful students in part (d). Inevitably there were many arithmetic slips but some incorrect answers involved errors with the placement of the decimal point, typically giving 5.76 rather than 57.6

Half of students correctly subtracted fractions with the same denominator in part (e) and correctly simplified their final answer as required. Some students did not heed the requirement to simplify and others made errors doing so. A surprising number of students unnecessarily attempted to find a common denominator by cross multiplication leading to $\frac{84}{144} - \frac{36}{144}$

This suggests a reliance on this particular method without acknowledgement that there may be a far simpler approach for many pairs of denominators.

Q16.

Parts (a) and (b) were done very well by nearly all students with just occasional place value errors leading to 0.07 or 7 instead of 0.7 and 4.5% rather than 45%. There were occasional instances of 7.10 which would appear to indicate a misunderstanding of the relationship between fractions and decimal notation.

A high proportion of students were able to gain the first mark in (c) for writing 30% as $\frac{30}{100}$ or another equivalent fraction, often $\frac{15}{50}$. They then either stopped a simplification process or made subsequent errors. Full marks were awarded for the student's final answer so a few lost the second mark by an incorrect simplification after $\frac{3}{10}$ had been reached, often giving $\frac{1}{5}$

A few students chose to write their answer as a decimal and others thought that 30% is equivalent to $\frac{1}{3}$

Part (d) proved the most challenging part of this question for weaker students. Rounding errors were apparent with 2.73 and 2.80 the most common incorrect answers. There were also various answers offered with errors involving the re-positioning of the decimal point such as 27.38 or 273.8

Q17.

About 50% of candidates gave 0.25 as the decimal equivalent to ¼ in part (a). Incorrect answers included 1.4 and 0.4.

Part (b) was the least successfully answered part to this question with the success rate falling to about 40%. Many candidates wrote 0.8 as 8%.

Nearly 60% correctly simplified the ratio 2:6 in part (c). Where candidates attempted this question, errors often involved attempts to find equivalent fractions.

Q18.
No Examiner's Report available for this question

Mark Scheme

Q1.

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

Q2.

5MB2F/01 June 2015				
Question	Working	Answer	Mark	Notes
(a)		43	1	B1 cao
(b)		15	1	B1 cao
(c)		$\dfrac{3}{10}$	1	B1 for $\dfrac{3}{10}$ or 3 tenths oe

Q3.

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

Q4.

Question	Working	Answer	Mark	Notes
	$^{16}/_{40} + {}^{15}/_{40} = {}^{31}/_{40}$ OR 		2 3	3 5			15		8	16	40	 OR 0.4 + 0.375	$^{31}/_{40}$ or 0.775	2	M1 for attempt to write both fractions with a common denominator (a multiple of 40) with at least one of them correct A1 for $^{31}/_{40}$ oe OR M1 for 40 in the correct cell and 15 or 16 in the correct cell A1 for $^{31}/_{40}$ oe OR M1 for changing both fractions to decimals with both 0.4 and 0.375 seen A1 for 0.775

Q5.

5MB2H/01 June 2015				
Question	Working	Answer	Mark	Notes
(a)		$5^{1}/_{4}$	1	B1 for $5^{1}/_{4}$ oe
(b)		12	2	M1 for $(28 \div 7) \times 3$ oe A1 cao
(c)		4000	2	M1 for 20 or 200 A1 for $4000 - 4040$

Q6.

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"

Q7.

5MB2H_01 November 2015				
Question	**Working**	**Answer**	**Mark**	**Notes**
		$4\frac{8}{35}$	3	M1 for converting both fractions to get a common denominator of a multiple of 35 with at least one correctly converted. M1 (dep on M1) for $3 + \dfrac{"28"}{35} + \dfrac{"15"}{35} \left(= 3\dfrac{43}{35}\right)$ oe A1 for $4\dfrac{8}{35}$ cao

Q8.

Question	Answer	Mark	Mark scheme	Additional guidance
	8	P1	for working with volume of the cuboid, eg 30 × 6 × 19 (= 3420) OR for using $\frac{2}{3}$ with one dimension, eg. 30 × 2 ÷ 3 (= 20)	For P marks, ignore attempts at unit conversion
		P1	for "3420" × 2 ÷ 3 (= 2280) or "3420" ÷ 3 (= 1140) OR "20" × 6 × 19 (= 2280) OR "3420" ÷ 275 (= 12.4….. = 12 cups)	
		P1	(dep on P2) for "2280" ÷ 275 (= 8.29..) or "1140" ÷ 275 (= 4.14..) OR "12" × 2 ÷ 3 OR for 275 × 8 (= 2200) or 275 × 9 (= 2475)	
		A1	cao	

Q9.

5MB2F_01 November 2015				
Question	Working	Answer	Mark	Notes
		80	3	M1 for 120 ÷ 3 (=40) M1 for 120 − "40" A1 cao OR M1 for 120 ÷ 3 (=40) M1 for "40" × 2 A1 cao

Q10.

Question	Working	Answer	Notes
		$\frac{3}{40}$	M1 $\frac{75}{1000}$ oe A1

Q11.

Question	Working	Answer	Notes
		$\dfrac{19}{100}$	B1 cao

Q12.

Question	Working	Answer	Notes
		60	B1 cao

Q13.

		Working	Answer	Mark	Notes
	(a)		$\frac{1}{10}$	1	B1 for $\frac{1}{10}$ or equivalent fraction
	(b)		0.25	1	B1 for 0.25

Q14.

		Working	Answer	Mark	Notes
	(a)		0.5	1	B1 cao
	(b)		¾	1	B1 for ¾ oe eg $^{75}/_{100}$
	(c)		$^{19}/_{30}$	1	B1 for $^{19}/_{30}$

Q15.

Question	Working	Answer	Mark	Notes
(a)		0.5	1	B1 cao
(b)		$\frac{3}{10}$	1	B1 for $\frac{3}{10}$ or equivalent fraction
(c)		80	1	B1 cao
(d)		57.6	1	B1 cao
(e)		$\frac{1}{3}$	2	M1 for writing over a single denominator eg $\frac{7-3}{12}$ or for $\frac{4}{12}$ A1 cao

Q16.

PAPER: 1MA0_2F

Question	Working	Answer	Mark	Notes
(a)		0.7	1	B1
(b)		45	1	B1 cao
(c)		$\frac{3}{10}$	2	M1 for $\frac{30}{100}$ or equivalent fraction A1 cao
(d)		2.74	1	B1 cao

Q17.

Question	Working	Answer	Mark	Notes
(a)		0.25	1	B1 cao
(b)		80%	1	B1 cao
(c)		1:3	1	B1 cao

Q18.

Paper 1MA1: 1F			
Question	Working	Answer	Notes
		$\dfrac{37}{1000}$	B1