Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Fractions, decimals and the four operations

Time allowed: 30 minutes

Subject code **0580**

Mathematics

Questions from Paper 1 and Paper 2

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 26

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 10 questions worth 26 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

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Print at 100% (Actual size) so diagrams keep their real measurements.

1 Write 16% as

(a) a decimal,

.....[1]

(b) a fraction.

.....[1]

(a) Converting fractions, decimals and percentages (b) Converting fractions, decimals and percentages

Click for more variations

1(a)	[0].16	**1**	
1(b)	$\frac{16}{100}$ oe	**1**	

2 Write the recurring decimal $0.\dot{2}$ as a fraction.
[$0.\dot{2}$ means 0.222…]

.....[2]

Recurring decimals Click for more variations

2	$\frac{2}{9}$ oe, must be a fraction	**2**	**M1** for $2.\dot{2} - 0.\dot{2}$ oe or **B1** for $\frac{k}{9}$

3

$$19.5 \times 20.4 = 397.8$$

Work out.

(a) 1.95×2.04

.....[1]

(b) $3978 \div 204$

.....[1]

(a) Converting fractions, decimals and percentages (b) Converting fractions, decimals and percentages

Click for more variations

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3(a)	3.978	**1**	
3(b)	19.5	**1**	

4 Some students take a test.
75 of the students pass the test.
This is $\frac{3}{5}$ of the students who take the test.

Work out how many students take the test.

..... [2]

Basic fractions Click for more variations

4	125	**2**	**M1** for 75 ÷ 3 [× 5] oe

5 Insert brackets to make each statement correct.

(a) 7 + 2 × 9 = 81 [1]

(b) 36 ÷ 6 ÷ 2 = 12 [1]

(c) 5 × 3 + 6 × 2 = 90 [1]

(a) Order of operations (BIDMAS) (b) Order of operations (BIDMAS) (c) Order of operations (BIDMAS)

Click for more variations

5	**(a)** (7 + 2) × 9	1	
	(b) 36 ÷ (6 ÷ 2) = 12	1	
	(c) 5 × (3 + 6) × 2 = 90	1	

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6 Without using your calculator, work out $\frac{5}{6} - \left(\frac{1}{2} \times 1\frac{1}{2}\right)$.

Write down all the steps of your working.

Answer ..... [3]

Adding and subtracting fractions Click for more variations

6		$\left[\frac{1}{2} \times 1\frac{1}{2} =\right] \frac{3}{4}$ oe $\frac{5\times2}{6\times2}$ and $\frac{3\times3}{4\times3}$ oe or better $\frac{1}{12}$ oe **working must be shown**	**B1** **M1FT** **A1**	

7 **Without using a calculator**, work out $1\frac{2}{3} \div 7\frac{1}{2}$.

You must show all your working and give your answer as a fraction in its simplest form.

..... [3]

Multiplying and dividing fractions Click for more variations

7	$\frac{5}{3} \times \frac{2}{15}$ oe or $\frac{10}{6} \div \frac{45}{6}$ oe with common denominator	**M2**	**B1** for $\frac{5}{3}$ oe or $\frac{15}{2}$ oe or **M1** for *their* $\frac{5}{3} \times$ *their* $\frac{2}{15}$
	$\frac{2}{9}$ cao	**A1**	

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8 **Without using a calculator**, work out $1\frac{1}{7} \times 2\frac{1}{10}$.
You must show all your working and give your answer as a mixed number in its simplest form.

..... [3]

Multiplying and dividing fractions Click for more variations

8	$\frac{8}{7}$ and $\frac{21}{10}$ oe improper fractions	**M1**	
	$\frac{168}{70}$ oe improper fractions	**A1**	
	$2\frac{2}{5}$ cao final answer	**A1**	**Dep**. on first **A1** If M0 scored **SC1** for $\frac{8}{7}$ or $\frac{21}{10}$ oe improper fractions

9 Jonah has \$750.
He spends $\frac{1}{4}$ of this money on travel, and some of this money on food.
He now has \$437.50 .

Work out the fraction of the \$750 he spends on food.

..... [3]

Basic fractions Click for more variations

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9	$\frac{1}{6}$ or equivalent fraction	**3**	**B2** for $\frac{625}{750}$ oe or **M2** for $750-\frac{750}{4}-437.5$ oe or **M1** for $750-\frac{750}{4}$ oe or $\frac{750}{4}+437.5$ oe or $\frac{437.5}{750}$ oe

10 Write $0.6\dot{2}\dot{1}$ as a fraction in its simplest form.
You must show all your working.

..... [3]

Recurring decimals Click for more variations

10	621.21… – 6.21… oe	**M1**	
	$\frac{41}{66}$ cao	**A2**	**A1** for $\frac{615}{990}$ oe If M0 scored **SC1** for $\frac{k}{990}$ or for answer $\frac{41}{66}$ with insufficient working

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