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

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Reverse percentages

Time allowed: 35 minutes

Subject code **0580**

Mathematics

Questions from Paper 2 and Paper 4

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 The Tiger Sky Tower in Singapore has a viewing capsule which holds 72 people.
This number is 75% of the population of Singapore when it was founded in 1819.
What was the population of Singapore in 1819?

Answer ..... [2]

Reverse percentages Click for more variations

1	96	**2**	**M1** 72 / 0.75 oe or **M1** $0.75x = 72$ oe

2 Amalie makes a profit of 20% when she sells a shirt for $21.60.

Calculate how much Amalie paid for the shirt.

Answer $ ..... [2]

Reverse percentages Click for more variations

2	18	2	**M1** for 21.6 ÷ 1.2 oe

3 The cost of a train journey is increased by 6% to a new cost of $153.70 .

Calculate the original cost of the train journey.

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$ ..... [2]

Reverse percentages Click for more variations

3	145	**2**	**M1** for $x\left(1+\frac{6}{100}\right) = 153.7$ oe or better

4 In a sale, the original price of a sewing machine is reduced by $38.
This is an 8% reduction in the original price.

Work out the original price of the sewing machine.

$ ..... [2]

Reverse percentages Click for more variations

4	475	**2**	**M1** for $x \times \frac{8}{100} = 38$ or for $\frac{38}{8} \times 100$ oe

5 Anita buys a computer for $391 in a sale.
The sale price is 15% less than the original price.

Calculate the original price of the computer.

Answer $ ..... [3]

Reverse percentages Click for more variations

5		460	**3**	**M2** for $\frac{391 \times 100}{(100-15)}$ oe or **M1** for recognising 391 as (100 – 15)% soi

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6 During a marathon race an athlete loses 2 % of his mass.
At the end of the race his mass is 67.13 kg.

Calculate his mass before the race.

Answer ..... kg [3]

Reverse percentages Click for more variations

6	68.5 www	**3**	**M2** for 67.13 ÷ 0.98 or **M1** for 67. 13 is 98%

7 Indira buys a television in a sale for $924.
This was a reduction of 12% on the original price.

Calculate the original price of the television.

$..... [3]

Reverse percentages Click for more variations

7	1050	**3**	**M2** for $924 \div \frac{(100-12)}{100}$ oe or **M1** for 88[%] associated with 924 oe

8 Jasjeet and her brother collect stamps.
When Jasjeet gives her brother 1% of her stamps, she has 2475 stamps left.

Calculate how many stamps Jasjeet had originally.

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Answer ..... [3]

Reverse percentages Click for more variations

8	2500 nfww	**3**	**M2** for $2475 \div \left(1-\frac{1}{100}\right)$ oe or **M1** for 2475 associated with 99%

9 Oliver sent 22% more messages in June than in May.
He sent 305 messages in June.

Find how many more messages he sent in June than in May.

..... [3]

Reverse percentages Click for more variations

9	55	**3**	**B2** for 250 or **M2** for $(305 \div 122) \times 22$ oe or better or **M1** for $\left(1+\frac{22}{100}\right)m = 305$ oe or better

10 Adil and Brian are paid the same wage.
Adil is given a 7% pay decrease and his new wage is $427.80 .
Brian is given a 7% pay increase.

Work out Brian's new wage.

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$ ..... [3]

Reverse percentages Click for more variations

10	492.2[0]	**3**	**B2** for 32.2[0] OR **M1** for $x\times\left(1-\frac{7}{100}\right)=427.8$[0] oe or better **M1** for *their* $460\times\left(1+\frac{7}{100}\right)$ oe or *their* $460\times\frac{7}{100}$ correctly evaluated

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