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

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

STEM | Exam Builder

Money, time and the calculator

Time allowed: 40 minutes

Subject code **0580**

Mathematics

Questions from Paper 1, Paper 2, Paper 3 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

/ 34

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 34 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.

STEM | Exam Builder

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

1 A train journey starts at 23 40 and finishes at 06 50.

Work out the time taken for this journey.

..... h ..... min [1]

Time Click for more variations

1	7 h 10 min	**1**	

2 Use a calculator to work out the following.

(a) $3\,(-4 \times 6^2 - 5)$

Answer(a) ..... [1]

(b) $\sqrt{3} \times \tan 30° + \sqrt{2} \times \sin 45°$

Answer(b) ..... [1]

(a) Using a calculator (b) Using a calculator Click for more variations

2	**(a)** −447	**1**	
	(b) 2	**1**	

3 Gregor changes \$700 into euros (€) when the rate is €1 = \$1.4131 .

Calculate the amount he receives.

Answer € ..... [2]

Exchange rates Click for more variations

3	495.36	**2**	**M1** for 700 ÷ 1.4131

STEM | Exam Builder

4 Asha works in a café.
Her wage is calculated using the formula wage = hourly rate × number of hours + bonus.
Her hourly rate is $11.52 .
One week Asha works 25 hours and receives a bonus of $5.40 .

Work out her wage for this week.

$ ..... [2]

Money calculations Click for more variations

4	293.40	**2**	**M1** for 11.52 × 25 + 5.4

5 The table shows the opening hours of a doctor's surgery.

Day	Opening hours
Monday	09 00 – 14 00
Tuesday	09 00 – 14 00
Wednesday	09 00 – 16 30
Thursday	09 00 – 14 00
Friday	09 00 – 18 30
Saturday	08 30 – 12 30
Sunday	CLOSED

Work out the total number of hours the surgery is open during a week.

..... hours [3]

Time Click for more variations

5	36	**3**	**M2** for 5 × 3 + 7.5 + 9.5 + 4 oe or **M1** for two of 5, 7.5, 9.5 and 4

STEM | Exam Builder

6 The table shows some information about Amir's shopping.

Fruit	Cost per kilogram	Number of kilograms Amir buys	Cost
Oranges	$2.35	3.2	$.....
Bananas	$.....	2.8	$.....
		Total	$13.54

Complete the table.

[3]

Money calculations Click for more variations

6	<table><tr><th>Fruit</th><th>Cost per kg</th><th>Cost</th></tr><tr><td>Oranges</td><td></td><td>$7.52</td></tr><tr><td>Bananas</td><td>$2.15</td><td>$6.02</td></tr></table>	**3**	**B1** for 7.52 **B1** for 6.02 or **B1FT** for 13.54 – *their* 7.52 correctly evaluated provided *their* 7.52 < 13.54 **B1FT** for *their* 6.02 ÷ 2.8 correctly evaluated

7 A plane leaves Seattle at 07 30 on Tuesday and arrives in Seoul 10 hours and 55 minutes later.
The local time in Seoul is 16 hours ahead of the local time in Seattle.

Work out the day and time in Seoul when the plane arrives.

STEM | Exam Builder

Day ..... Time ..... [3]

Time Click for more variations

7	Wednesday and 10 25	**3**	**B2** for 10 25 or **B1** for one correct time calculation or **M1** for 07 30 + 10 55 + 16 00

8

Exchange rates
1 euro = 1.05 dollars
1 rupee = 0.013 dollars

Vani changes x euros into dollars.
She then changes the dollars into 17 850 rupees.

Calculate the value of x.

$x =$ ..... [3]

Exchange rates Click for more variations

8	221	**3**	**M2** for $\frac{17850 \times 0.013}{1.05}$ or **M1** for 17850×0.013 or for $\frac{1.05x}{0.013} = 17850$

STEM | Exam Builder

9 In the USA, one gallon of fuel costs \$4.83 .
In the UK, one litre of fuel costs £1.62 .

The exchange rate is £1 = \$1.215 .
1 gallon = 3.785 litres

In which country does 1 litre of fuel cost more and by how much?
Give your answer in dollars.

..... by \$ ..... [3]

Exchange rates Click for more variations

9	UK by [\$]0.69 or [\$]0.692…	**3**	**B2** for 1.96[8…] or 1.97 **and** 1.27[6…] or 1.28 or **M2** for $1.62\times1.215-\frac{4.83}{3.785}$ oe or **M1** for 1.62×1.215 or $\frac{4.83}{3.785}$

STEM | Exam Builder

10 The table shows the amount received when exchanging **$100** in some countries.

Country	Amount received for $100
Wales	77.05 pounds
India	7437.05 rupees
China	671.20 yuan
Spain	85.35 euros

(a) Brad changes $250 to Indian rupees.

Calculate the amount he receives correct to the nearest rupee.

..... rupees [2]

(b) Wang changes 5400 Chinese yuan into dollars.

Calculate how much he receives in dollars, correct to the nearest cent.

$ ..... [2]

(c) Gretal lives in Spain and goes on holiday to Wales.
She spends 3500 euros in total on travel and hotels in the ratio

travel : hotels = 4 : 3.

(i) Work out how much Gretal spends, in euros, on travel.

..... euros [2]

(ii) Work out how much she spends, **in pounds**, on hotels.

..... pounds [3]

STEM | Exam Builder

(iii) Gretal flies home to Spain.
The plane flies a distance of 2200 km, correct to the nearest 100 km.
The average speed of the plane is 740 km/h, correct to the nearest 20 km/h.

Calculate the lower bound of the time taken, in hours and minutes, for this flight.

..... h ..... min [3]

(a) Exchange rates (b) Exchange rates (c)(i) Ratios (c)(ii) Exchange rates
(c)(iii) Upper and lower bounds Click for more variations

10(a)	18593 cao	**2**	**M1** for $7437.05 \times 250 \div 100$ oe
10(b)	804.53 cao	**2**	**M1** for $5400 \div 671.20$ [$\times 100$] oe
10(c)(i)	2000	**2**	**M1** for $3500 \div (4 + 3)$ [$\times k$] oe
10(c)(ii)	1354.13 …	**3**	**M2** for (3500 – *their* **(c)(i)**) $\times \frac{77.05}{85.35}$ oe or **M1** for (3500 – *their* **(c)(i)**) ÷ figs 85.35 oe or for $\frac{77.05}{85.35}$ oe or for (3500 – *their* **(c)(i)**) × figs 77.05
10(c)(iii)	2 [h] 52 [min] nfww	**3**	**M2** for $\frac{2100 \text{ to } 2200}{740+10}$ or $\frac{2200-50}{740 \text{ to } 760}$ or **M1** for 2200 + 50 or 2200 – 50 or 740 + 10 or 740 – 10

STEM | Exam Builder