



GCSE Foundation 05

Number



133 minutes



126 marks

Percentages

M1. (a) $\frac{10}{50}$ or $\frac{2}{10}$ or $\frac{4}{20}$ or $\frac{5}{25}$ or $\frac{6}{30}$ or $\frac{8}{40}$ **B1**

$$\frac{1}{5}$$

ft their fraction correctly simplified

B1 ft

(b) $\frac{60}{100}$ ($\times 50$)

or 5×6

or $60\% = \frac{3}{5}$ seen or implied

or $10\% = 5$ (squares)
oe

M1

30

20 more squares shaded on grid

A1

20

SC2 for 4×5 or 4 columns

A1

[5]

M2. (a) (i) 40 **B1**

(ii) their $40 + 80 + 60 (= 180)$
Allow one error or omission

M1

$250 -$ their 180
Must subtract all three months

M1

Bar drawn to 70
SC1 bar drawn to their 70

A1

(b) $80 - 30$ or 5×10
Condone $80 - 25$ for M1 **M1**

50

Must show working SC1 50 no working SC1 $8 - 3 = 5$

A1

(c) (i) $80 + 50 + 30 + 70 (= 230)$

or $4 \times 50 (= 200)$

Condone $8 \times 50 (= 400)$

M1

$250 + \text{their } 230 + \text{their } 200$

or $\text{their } 400 + \text{their } 230 (= 630)$

M1

680

$430 \Rightarrow M1 M0 A0$

$630 \text{ seen} \Rightarrow M1 M1 A0$

A1

(ii) $0.5 \times \text{their } 680$

oe

M1

340

A1 ft

[11]

M3. (a) D or (£)131 750

B1

(b) A or (£)132 500

B1

(c) $132\,500 - 131\,750$

ft their answer to parts (a) and (b)

M1

750

ft their answer to parts (a) and (b)

A1 ft

(d) 13 240

Allow 13 240.0 or 13 240.00

B1

[5]

M4. (a) 11 or -11 or both

B1

(b) $45 \div 5 \times 3$ or $45 \times 3 \div 5$

oe eg $\frac{60}{100} \times 45$

M1

27

A1

(c) $\frac{8}{100} \times 150$ or 8×1.5

or $8 \div 2 \times 3$

oe eg $10\% = 15$ ($1\% = 1.5$)

$2\% = 3$ so $8\% = 15 - 3$ or $8\% = 4 \times 3$

M1

12

oe eg 12.0 or 12.00

A1

[5]

M5. (a) 1.99×6 or 199×6 (= 1194)

M1

11.94

SC1 119.40

SC1 12 (.00)

A1

(b) $\frac{1}{2}$

B1 equivalent fraction to $\frac{1}{2}$ eg $\frac{30}{60}$

or B1 $\frac{n}{60}$ seen with its correct simplest form

SC1 50%

SC1 0.5

B2

(c) 10% circled

Any clear indication

B1

(d) Questionnaire/survey/interview

oe telephone everyone

B1

[6]

M6. (a) 10, 18, 4, 8
B1 two or three correct

B2

(b) $\frac{1}{4}$

B1 ft $\frac{10}{40}$ oe

ft from their sun frequency

B1 correct cancelling to simplest form of their unsimplified

fraction, $\frac{n}{40}$

SC1 0.25 or 25%

B2 ft

(c) (i) Sunny = 16 and Snow = 0
 16, 20, 0, 4

SC2 Tallies worth B3

SC1 Tallies worth B2

B1

Rain = 20

B1

Fog = 40 – their 20 – their 16
 – their 0

B1 ft

(ii) Impossible

oe Word(s) eg no chance, never

B1 ft

Evens

oe Word(s) eg even, even chance

*SC1 2 correct numerical probabilities
 for both marks ft from table*

B1 ft

[9]

M7. (a) 20

B1

(b) Mathematics

- (c) (i) Attempts a dual bar chart
Allow errors if intention clear

B1

Structure correct

*Bars paired, vertical scale numbered, horizontal scale labelled,
 key/labels for Nick and Jen*

B1

Heights all correct

Using their scale, linear between

40 and 90

B1 all but one or two heights correct

B2

Alternative method 1

Turns Nick's pictogram into a bar chart, scales structure and heights correct

Vertical scale and horizontal labels

Structure including equal gaps

Heights

B2 for two correct

B1 for one correct

Max B3

Alternative method 2

Turns Jen's bar chart into a pictogram, structure, number of symbols, key

B2 two of structure, number of symbols and key

B1 one of structure, number of symbols and key

Max B3

- (ii) 3 correct comparisons

B1 ft 2 correct comparisons

eg English was Jen's best score but

Mathematics was Nick's best score ft their diagram

B2 ft

A comparative statement for Nick and Jen for one subject
 or totals or means or ranges

Strand (iii)

Q1

[9]

M8. (a) $0.7 \times 986 (= 690.2)$

oe

M1

690.20(p)

Strand (i)

690.20 seen ignore further working

SC1 295.80

Do not accept 690.2

Q1

(b) Circles C and E only

B1 both correct and one other

B1 one correct, 0 or 1 wrong

B2

[4]

M9. (a) No and reference to 10 being 50%

Accept 70% is 14 correct

B1

(b) Yes and $75\% > 70\%$

Accept 75% is 15 correct

$$\text{or } \frac{3}{4} = 75\%$$

B1

(c) $70 \times 20 \div 100$

$$70 \div 5$$

M1

14

A1

[4]

M10. (a) $\frac{6}{6+69+25}$

$$\frac{6}{100}$$

M1

$$\frac{3}{50}$$

A1

(b) 31

B1

(c) (i) Unlikely

B1

(ii) Certain

B1

[5]

M11. (a) $400 + 400 + 300 (= 1100)$

M1

Total £1100

A1

10% of 1100 = 110

B1

$990 = 1100 - £110$
oe

B1

(b) $642.60 - 630$

M1

Their $12.6 \div 630$

M1

2

A1

[7]

M12. $800 \div 10 (= 80)$
oe

M1

$70 \div 5 (= 14)$
oe

M1

94

A1

[3]

M13. (a) 3×4

$\frac{3}{4}$ of grid identified

M1

12

A1

(b) $\frac{5}{20} (\times 100)$
oe

M1

25

A1

(c) $\frac{1}{2} \times 2 \times 2 (= 2)$

or states 2 out of 3 shaded

Identifies 1 square unshaded

or 4 quarters unshaded

or 2 squares shaded oe

M1

$\frac{2}{3}$

A1

[6]

M14. 0.45×330

oe build up method must be complete

M1

148.5

SC1 149

A1

[2]

M15. (a) $\frac{4}{5}$

B1 $\frac{8}{10}$ seen

B2

(b) (i) $270 \div 10 \times 3$
oe

M1

81

A1

(ii) $270 - \text{their } 81$
 0.7×270 oe

M1

189

Correct or ft

A1 ft

[6]

M16. (a) 85

B1

(b) $52 \div 10$
oe

M1

5.2

A1

(c) $\frac{2}{9}$
oe

B1

[4]

M17. (a) 3 correct bar heights

B1 One or two correct

Tolerance $\pm \frac{1}{2}$ small square

B2

Bars equal width with gaps

B1

(b) $\frac{40}{60}$
oe

M1

$\frac{2}{3}$

A1

- (c) $10 + 2 = 12$ (miss goal or hit post)

B1

Method to find 20% of 60

$$\frac{12}{60} \times 100$$

M1

= 12 so Andy is correct

= 20 so Andy is correct

A1

[8]

- M18.** (a) Fully correct pie chart, correctly labelled with all sector angles correct (108°, 120°, 72° and 60°) (sectors $\pm 2^\circ$)

*B3 4 correct sectors drawn with no/wrong labels
or*

*2 correct sectors drawn and 4 labels
in correct order of size*

*B2 2 correct sectors drawn; with no/wrong labels
or*

*1 correct sector drawn and 4 labels
in correct order of size*

or

4 correct angles calculated

B1 1 correct sector drawn; no/ wrong labels

or

1 correct angle calculated

or

4 sectors labelled in correct order of size

B4

- (b) $18 \div 60 \times 100$

oe eg $\frac{3}{10} \times 100$ or $\frac{108}{360} \times 100$

M1

30

A1

- (c) Stem (1, 2, 3, 4, 5)

B1

Leaf (8) (3,9) (6,6,9) (1,3,4) (4)

B1 for 3 or 4 rows correct

B1 not ordered

B2

[9]

M19. $40 \div 100 \times 60$ or 4×6
 oe

M1

$55 \div 5 \times 2$
 oe

M1

24 **or** 22

A1

24 **and** 22 **and** conclusion

A1

[4]

M20. $55/100 \times 3$

M1

1.65 (litres)

A1

$3/4 \times 2.5$
 oe only penalise once for repeated error

M1

1.875 (litres) + (B or 2.5 litre)
 oe

A1

[4]

M21. (a) 1.4×95 (= 133 pence)

M1

$193 -$ (their 133) (= 60 pence)

DM1

(their 60) $\div 0.8$

M1

75 (pence)
 £0.75

A1

(b) $4.50/22.50 \times 100$

M1

20(%)

A1

[6]

M22. 50 ÷ 400

$$\frac{3.5(0)}{4} \times 100 \text{ or } 1 - \frac{3.5}{4}$$

M1

× 100

100 – above or above × 100

M1 dep

12.5

A1

[3]

M23. $\frac{10}{100} \times (16.50 + 8.50) (= 250)$

$$\frac{10}{100} \times (16.50) (= 1.65) \text{ and}$$

$$\frac{10}{100} \times (8.50) (= 0.85) \text{ worked out separately}$$

M1

(16.50 + 8.50) – their 2.5(0)

16.50 – their 1.65 (= 14.85)

and 8.50 – their 0.85 (= 7.65)

$$\frac{90}{100} \times (16.50 + 8.50) \text{ is M2 or}$$

$$\frac{90}{100} \text{ of each worked out separately is M2}$$

M1 dep

22.50

Do not accept 22.5 but M2 implied

SC1 Answer 14.85 or 7.65

A1

[3]

