

Past-paper walk-through

Sets ■ E1.2

eXercise

Questions in this set

- 0580/21 N25 Q10 ■ 3 marks
- 0580/22 N25 Q12 ■ 7 marks

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 10

0580/21 N25 ■ Q10 ■ 3 marks

- 10** $\mathcal{E} = \{n: n \text{ is an integer and } 1 \leq n \leq 8\}$
 $A = \{\text{factors of } 12\}$
 $B = \{\text{odd numbers}\}$

Find

(a) $A \cap B$

Question 10

(b) $n(A' \cup B)$.

Solution 10

(a)

Mark scheme

- 1, 3
- 1

Solution 10

(b) Mark scheme

- 5
- 1
- 11
- 8
- 33
- cao
- 2 B1 for $24/99$ oe
- or M1 for $24.24\ldots - 0.24\ldots$ oe

Solution 10

- 12
- 9
- 4 M3 for a fully correct method
- e.g.
- 2
- 2
- 9
- 2
- 9
-

Solution 10

-
-
- $\times \times$
- $\times$
- oe
- OR **B2**
- for 40 or $1/9$ oe
- or M1 for $18 +$
-
- 2

Solution 10

- 9
- 1
-
- 8
- 2
- $k \times \times \times =$
- +
- oe M1
- for
- 2

Solution 10

- (
-)
-
- 9
- their $k \times$
- $\times$
- oe
- OR
- SC2 for answer $81 + 9$ oe
- 13

Solution 10

- 68
- 2
- 8
- 10
- +
- =
- x
- or better
- $x = 6$
- Lower quartile = 6.5 or 6.75 or 7

Solution 10

- or upper quartile = 9
- 2 or 2.25 or 2.5 nfw

Question 12

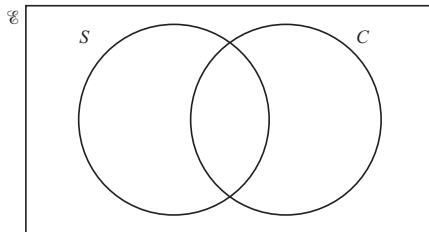
0580/22 N25 ■ Q12 ■ 7 marks

12 A fitness club has 100 members.

60 swim (S).

70 cycle (C).

25 do not swim or cycle.



Question 12

- (a) Complete the Venn diagram.

Question 12

[3]

(b) One member of the fitness club is chosen at random.

For this member, find

(i) $P(C)$

Question 12

(ii) $P(S \cap C)$

Question 12

(iii) $P(S \cup C')$.

Question 12

Solution 12

(a) Mark scheme

- or
- 3 If values placed: **B2**
- for 55 correctly placed
- OR **B1**
- for 25 correctly placed **M1**
- for total $S = 60$ and total $C = 70$ with
- intersection not equal zero/not blank
- OR

Solution 12

- Alt method if probabilities placed: (B2)
- for 0.55 oe correctly placed
- OR (B1)
- for 0.25 oe correctly placed (M1)
- for total $S = 0.6$ and total $C = 0.7$
- with intersection not equal zero/not blank

Solution 12

(b)(i)**Mark scheme**

- 70
- 100 oe
- 1

Solution 12

(b)(ii) Mark scheme

- 55
- 100 oe
- 1 FT
- 55
- 100
- their
- from their Venn diagram

Solution 12

(b)(iii) Mark scheme

- 85
- 100 oe
- 1 FT
- 25
- 5
- 55
- 100
- their

Solution 12

- their
- their
- +
- +
- or
- 15
- 1
- 100
- their
- —

Solution 12

- from their Venn diagram