## Q1. (2019)

**17** Toby is forming and solving equations.

| | | | |
|---|---|---|---|
| 17(a) | $y^2 = \frac{1}{2}y(y + 3)$ | B2 | oe equation<br>eg $2y^2 = y^2 + 3y$ or $y^2 = 3y$ or $y = 0$<br>or $y = 3$ or $y = 0$ or 3<br>B1<br>$\frac{1}{2}y(y + 3)$ oe expression<br>or an otherwise correct equation using a different unknown or combination of unknowns |
| | **Additional Guidance** | | |
| | Allow multiplication signs<br>eg $y \times y = \frac{y}{2} \times (y + 3)$ | | B2 |
| | $y^2 = \frac{1}{2}y(y + 3)$ followed by incorrect simplification or attempt to solve the equation | | B2 |
| | $y^2 = \frac{1}{2}y + y + 3$ | | B0 |
| | 3 only or 0 only or 0 and 3 only | | B0 |
| | Do not allow missing or partially missing brackets unless recovered<br>eg1 $y^2 = \frac{1}{2}y \times y + 3$ without correct equation seen<br>eg2 $y^2 = \frac{1}{2}y(y + 3$ without correct equation seen | | B0<br>B0 |

## Q2. (2023)

| Q | Answer | Mark | Comments |
|---|---|---|---|
| 2 | $x < 13$ or $13 > x$ | B1 | |
| | **Additional Guidance** | | |
| | $x = 13$ in working with $x < 13$ on answer line | | B1 |
| | $x < 13$ and $(x =) 13$ on answer line | | B0 |
| | $x < 13$ in working with $x = 13$ or 13 on answer line | | B0 |
| | Ignore number lines drawn | | |

## Q3. (2023)

| Q | Answer | Mark | Comments |
|---|---|---|---|
| 10 | **Alternative method 1 – algebra based on Sunita's age** | | |
| | $5 \times 3$ or 15 | M1 | may be implied by their algebraic total of the three ages being divided by 3 |
| | $x - 1$ or $2x$<br>or $4x - 1$ | M1 | oe expressions<br>any letter throughout |
| | $x$ + their $(x - 1)$ + their $2x$ = their 15<br>or $4x - 1$ = their 15 | M1dep | oe equation eg $\frac{x + x - 1 + 2x}{3} = 5$<br>dep on M1M1 |
| | $(x =) 4$ | M1dep | correct solution to their equation<br>if the solution has a decimal part allow truncation or rounding to the nearest whole number |
| | 8 | A1 | |
| | **Alternative method 2 – algebra based on Joel's age** | | |
| | $5 \times 3$ or 15 | M1 | may be implied by their algebraic total of the three ages being divided by 3 |
| | $\frac{y}{2}$ or $\frac{y}{2} - 1$<br>or $2y - 1$ | M1 | oe expressions<br>any letter throughout<br>$2y - 1$ must not come from $y + y - 1$ |
| | $y$ + their $\frac{y}{2}$ + their $(\frac{y}{2} - 1)$ = their 15 | M1dep | oe equation eg $\frac{y + \frac{y}{2} + \frac{y}{2} - 1}{3} = 5$<br>dep on M1M1 |
| | $2y$ + their $y$ + their $(y - 2) = 2 \times$ their 15<br>or $4y - 2 = 30$<br>or $2y - 1 = 15$ | M1dep | their equation with no denominator |
| | 8 | A1 | |