| | | | | | | |
|---|---|---|---|---|---|---|
| **17** | (a) | g(3) = – 7<br>**or** f(3 – 10) = $(3 – 10)^2 + 6$<br>**or** $3^2 – 20\times3+106$ oe | | 2 | M1 | |
| | | | 55 | | A1 | |
| | (b) | $(x – 10)^2 + 6 = x^2 + 6$ | | 3 | M1 | Using f($x$ – 10) and setting equal to $x^2 + 6$ |
| | | $x^2 – 10x – 10x + 100$ oe | | | M1 | for $(x – 10)^2$ expanded correctly. |
| | | | 5 | | A1 | dep 1st M1 |
| | (c) | | 0 | 1 | B1 | accept $x \neq 0$ or $x = 0$ |
| | (d) | eg $yx = 2x – 4$ oe or $xy = 2y – 4$ oe<br>or $4 = 2x – yx$ or $4 = 2y – yx$ | | 3 | M1 | Removing denominator<br>equation may be rearranged |
| | | eg $4 = x(2 – y)$ oe or $4 = y(2 – x)$ oe<br>or $\frac{4}{x} = 2 – y$ or $\frac{4}{y} = 2 – x$<br>or $\frac{4}{2 – y} = x$ or $\frac{4}{2 – x} = y$ | | | M1 | for correct factorisation or implied factorisation |
| | | | $\frac{4}{2 – x}$ or $\frac{–4}{x – 2}$ | | A1 | oe |
| | | | | | | **Total 9 marks** |