# Pick a card...

Quadratics of the form $f(x) = x^2 + bx + c$

underground mathematics

① $f(x) = \ldots$

(Function in form $x^2 + bx + c$)

② Graph of $y = f(x)$

③ The graph crosses the axes at $x = \ldots\ldots$, $x = \ldots\ldots$ and $y = \ldots\ldots$

④ $f(0) = \ldots$

$f(1) = \ldots$

$f(2) = \ldots$

⑤ $f(x) = (x \ldots\ldots\ldots)^2 \ldots\ldots\ldots$

(Function in completed square form)

⑥ The lowest point on the graph is $(\ldots\ldots, \ldots\ldots)$.

⑦

| $x$ | $-3$ | $-2$ | $-1$ | $0$ | $1$ | $2$ | $3$ |
|---|---|---|---|---|---|---|---|
| $y$ | | | | | | | |

⑧ The solution(s) of $f(x) = 0$ is/are …

⑨ $f(x) = (\ldots\ldots\ldots)(\ldots\ldots\ldots)$

(Function in fully factorised form)

Reproduced with permission from "Reaching the Core of AS Mathematics" published by the Association of Teachers of Mathematics (https://www.atm.org.uk/)