# Use of completing the square to sketch quadratics

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| **Complete the square for the quadratic EXPRESSION****f(x)** | **Write down the coordinates of the TURNING POINT of the quadratic graph** | **Write down the ROOTS, ie solutions to** **f(x) = 0** **(if any)** | Sketch the quadratic GRAPH showing any intercepts |
| Example= $(x+1)^{2}-1+4$= $(x+1)^{2}+3$ | **(-1,3)** | try to solve...$$(x+1)^{2}+3=0$$$$(x+1)^{2}=-3$$Not possible so no roots[Note – could also see determine no roots from:shape of curve and TP or use of discriminant] |  4 |
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# Completing the square (continued)

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| **Complete the square for the quadratic EXPRESSION** | **Write down the coordinates of the turning point of the quadratic GRAPH** | Sketch the quadratic GRAPH |
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