

<p>Example: Complete the square $x^2 + 4x + 7$</p> <ol style="list-style-type: none"> 1. Divide the coefficient of x by 2 $(x + 2)^2$ 2. Expand the perfect square $(x + 2)^2 = (x + 2)(x + 2)$ $= x^2 + 4x + 4$ 3. Compare to the original and adjust as needed $x^2 + 4x + 7 = x^2 + 4x + 4 + 3$ $= (x + 2)^2 + 3$ 	<p>a) Complete the square $x^2 + 6x + 17$</p> <ol style="list-style-type: none"> 1. Divide the coefficient of x by 2 $(x + 3)^2$ 2. Expand the perfect square $(x + 3)^2 = x^2 + 6x + 9$ 3. Compare to the original and adjust as needed $x^2 + 6x + 17 = x^2 + 6x + 9 + \underline{\quad}$ $= (x + 3)^2 + \underline{\quad}$ 	<p>b) Complete the square $x^2 + 4x + 10$</p> <ol style="list-style-type: none"> 1. Divide the coefficient of x by 2 $(x + 2)^2$ 2. Expand the perfect square $(x + 2)^2 = x^2 + 4x + 4$ 3. Compare to the original and adjust as needed $x^2 + 4x + 10 = \underline{\quad} + \underline{\quad}$ $= (x + 2)^2 + \underline{\quad}$
<p>c) Complete the square $x^2 + 2x + 9$</p> <ol style="list-style-type: none"> 1. Divide the coefficient of x by 2 $(x + 1)^2$ 2. Expand the perfect square $(x + 1)^2 = \underline{\quad}$ 3. Compare to the original and adjust as needed $x^2 + 2x + 9 = \underline{\quad} + \underline{\quad}$ $= (x + 1)^2 + \underline{\quad}$ 	<p>d) Complete the square $x^2 + 8x + 25$</p> <ol style="list-style-type: none"> 1. Divide the coefficient of x by 2 $(x + \underline{\quad})^2$ 2. Expand the perfect square $(x + \underline{\quad})^2 = \underline{\quad}$ 3. Compare to the original and adjust as needed $x^2 + 8x + 25 = \underline{\quad} + \underline{\quad}$ $= (x + \underline{\quad})^2 + \underline{\quad}$ 	<p>e) Complete the square $x^2 + 10x + 72$</p>

f) Complete the square $x^2 + 8x + 1$

g) Complete the square $x^2 + 10x + 3$

h) Complete the square $x^2 - 6x - 10$

i) Complete the square $x^2 - 12x + 3$

j) Complete the square $x^2 + 3x + 1$

k) Complete the square $x^2 - 7x - 2$