**Converting from Vertex Form to Standard Form**

Multiply out the binomial, distribute (if needed), & combine like terms.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1. $f(x) = (x - 1)^2 + 8$</td>
<td>2. $f(x) = 2(x + 3)^2 - 5$</td>
</tr>
<tr>
<td>3. $f(x) = -(x - 4)^2 + 3$</td>
<td>4. $f(x) = 2(x + 1)^2 - 2$</td>
</tr>
</tbody>
</table>

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**Converting from Standard Form to Vertex Form**

poly-solv, $ax^2 + bx + c = 0$, enter $a$, $b$ & $c$, solve, scroll down to the bottom.

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>5. $f(x) = x^2 + 8x + 1$</td>
<td>6. $f(x) = x^2 + 10x + 20$</td>
</tr>
<tr>
<td>7. $f(x) = 3x^2 - 6x + 5$</td>
<td>8. $f(x) = -2x^2 - 16x - 32$</td>
</tr>
<tr>
<td>9. $f(x) = x^2 + 6x + 8$</td>
<td>10. $f(x) = x^2 - 4x + 3$</td>
</tr>
<tr>
<td>11. $f(x) = 3x^2 + 24x + 50$</td>
<td>12. $f(x) = -x^2 - 2x + 3$</td>
</tr>
</tbody>
</table>