Convert the following quadratics from vertex form to standard form.

1) $y=-(x-1)^{2}-1$
2) $y=2(x-2)^{2}-3$
3) $y=(x+4)^{2}+4$

For number's 4-9, find the vertex using two different methods. (-b/2a and putting in vertex form)
4) $y=x^{2}-8 x+15$
5) $y=x^{2}-4 x$
6) $y=x^{2}+8 x+18$

## 7) $y=x^{2}+4 x+3$

8) $y=x^{2}-2 x+5$
9) $y=x^{2}-8 x+17$

Convert the following quadratics from standard form to vertex form, then graph them.
10) $y=x^{2}-6 x+7$
11) $y=x^{2}+6 x+5$

