### 1.9 Completing the Square

Use the technique we practiced to change from standard form to vertex form and identify the vertex of each parabola WITHOUT graphing.

1. $f(x)=x^{2}+2 x-48$
2. $f(x)=x^{2}-10 x-56$
3. $f(x)=x^{2}+2 x-57$
4. $f(x)=x^{2}+8 x+12$
5. $f(x)=x^{2}+12 x-6$
6. $f(x)=7 x^{2}+14 x-21$
7. $f(x)=2 x^{2}+8 x-64$
8. $f(x)=10 x^{2}-20 x-87$
9. $f(x)=9 x^{2}+18 x+42$
10. $f(x)=3 x^{2}+18 x+48$
