Finding the Vertex of Quadratic Equations in Vertex Form

Find the vertex of the following parabolas.

1. $f(x) = 3(x - 4)^2 + 6$

2. $f(x) = -2(x + 9)^2 - 5$

3. $f(x) = (x + 7)^2 - 4$

4. $f(x) = -(x - 6)^2 + 12$

5. $f(x) = 9(x - 11)^2 - 3$

6. $f(x) = -15(x + 6)^2 + 39$

7. $f(x) = 5(x - 8)^2 - 10$

8. $f(x) = (x + 2.3)^2 - 1.5$

9. $f(x) = -8.9(x - 6.97)^2 - 9.24$

10. $f(x) = 4(x + 0.6)^2 + 0.43$

11. $f(x) = 0.942(x + \dfrac{2}{5})^2 - \dfrac{7}{3}$

12. $f(x) = -(x + \dfrac{4}{9})^2 - 2\dfrac{6}{7}$

Answers: 1. (4, 6)   2. (-9, -5)   3. (-7, -4)   4. (6, 12)   5. (11, -3)   6. (-6, 39)

7. (8, -10)   8. (-2.3, -1.5)   9. (6.97, -9.24)   10. (-0.6, 0.43)   11. $\left(-\dfrac{2}{5}, -\dfrac{7}{3} \right)$ 12. $\left(-\dfrac{4}{9}, -2\dfrac{6}{7} \right)$