

Find the vertex, axis of symmetry, focus, and directrix.

1. $(y + 2)^2 = -16(x + 3)$

2. $(x - 3)^2 = 8(y - 1)$

3. $(y + 2)^2 = 16(x - 2)$

4. $(y + 1)^2 = -12(x + 3)$

5. $(x - 3)^2 = 4(y + 4)$

Write the equation for each PARABOLA.

6. directrix $y = -8$, focus $(0,0)$

7. directrix $x = 1$, vertex $(-3, 1)$ ** pay attention to what you are given

8. vertex $(3, 0)$, focus $(3, 2)$

9. vertex $(-1, 2)$, focus $(-1, 4)$

10. focus $(2, 4)$, directrix $y = -2$

Find the vertex, axis of symmetry, focus, and directrix.

11. $x^2 - 6x - 8y + 17 = 0$

12. $y^2 - 2y + 8x + 9 = 0$

13. $x^2 + 2y + 4x + 9 = 0$