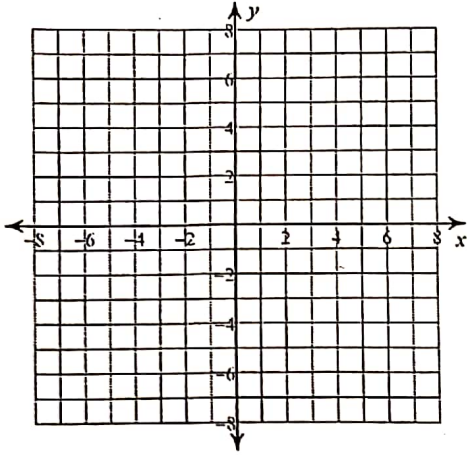


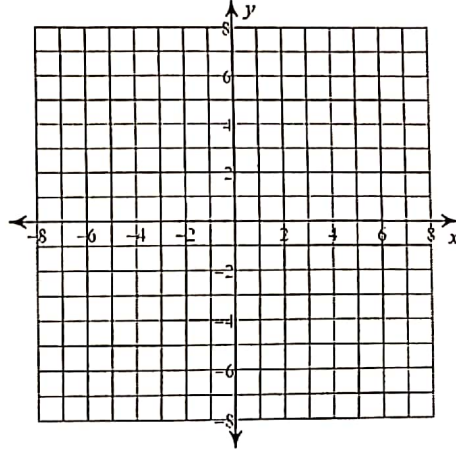
Quiz Review - Circles & Parabolas

Identify the center and radius of each. Then sketch the graph.

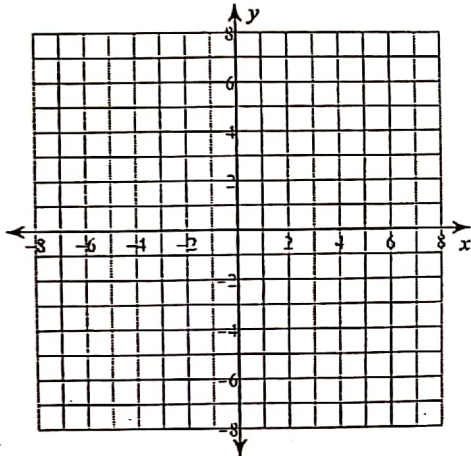
1) $x^2 + 6x = -4y - 9 - y^2$



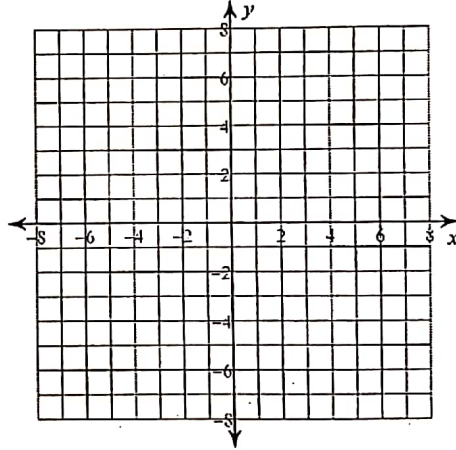
2) $x^2 - 4y = 7 - y^2 + 2x$



3) $-8y + x^2 = -15 - y^2$

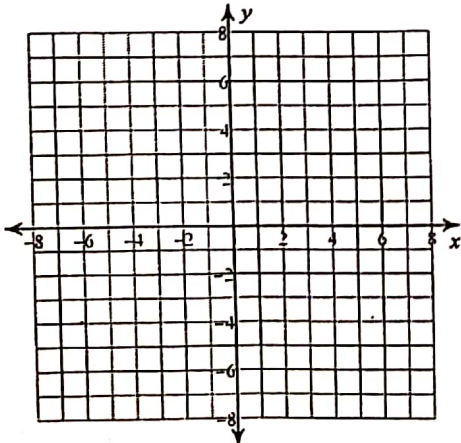


4) $-8x + 22 - 6y + y^2 + x^2 = 0$

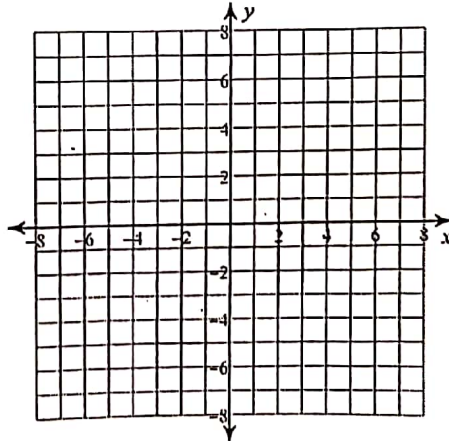


Identify the vertex, axis of symmetry, focus, and directrix of each. Then sketch the graph.

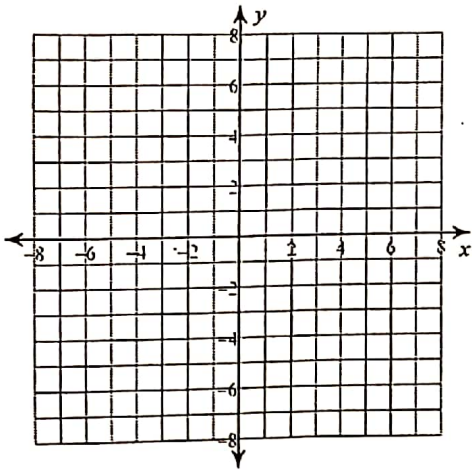
5) $2x^2 + 4x + y + 3 = 0$



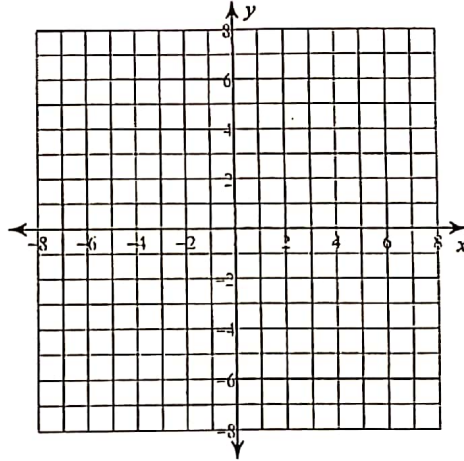
6) $-x^2 - 2x + y - 5 = 0$



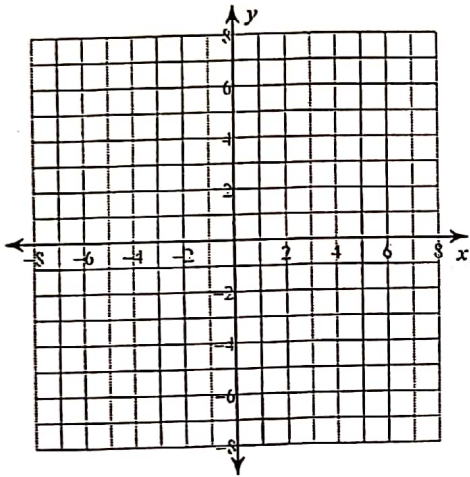
7) $y^2 + x + 2y + 4 = 0$



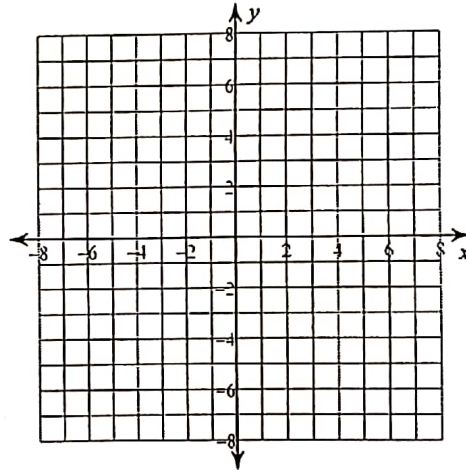
8) $-x^2 + 4x + 2y + 4 = 0$



9) $y^2 + x - 2y + 1 = 0$



10) $-3y^2 + x + 30y - 70 = 0$



Use the information provided to write the vertex form equation of each parabola.

11) Vertex: $(1, -4)$, Focus: $(\frac{3}{4}, -4)$

12) Vertex: $(0, 2)$, Directrix: $y = \frac{57}{28}$

13) Focus: $(10, \frac{55}{8})$, Directrix: $y = \frac{57}{8}$

14) Focus: $(-\frac{17}{16}, -4)$, Directrix: $x = -\frac{15}{16}$