

Conics 5 – Parabolas

Write an equation in standard form that satisfies each set of conditions. Then graph each parabola. Label all important points.

1. Vertex: $(3, 2)$, Focus: $(3, 5)$
2. Directrix: $x = -4$, Vertex: $(-2, 1)$
3. Endpoints of the Latus Rectum: $(-5, 3)$ and $(7, 3)$
4. Directrix: $x = 1$, Focus: $(5, 2)$
5. Vertex: $(-3, 1)$, Focus: $(-3, -3)$
6. Directrix: $x = 7$, Focus: $(2, 2)$
7. Vertex: $(3\frac{1}{2}, 2\frac{1}{2})$, Focus: $(3\frac{1}{2}, 1)$
8. Endpoints of the Latus Rectum: $(-3, 3)$ and $(-3, -4)$
9. Vertex: $(-2, \frac{1}{2})$, Directrix: $x = -7$
10. Vertex: $(3, 2)$, Focus: $(7, 2)$
11. Endpoints of the Latus Rectum: $(-4, -7)$ and $(6, -7)$
12. Directrix: $y = 1$, Focus: $(2, 7)$
13. Vertex: $(2, -5)$, Directrix: $x = 7$
14. Focus: $(2, 1)$, Vertex: $(2, -1)$
15. Vertex: $(-3, -7)$, Length of Latus Rectum = 16, Opens up
16. Focus: $(2, 6)$, Vertex: $(2, -7)$
17. Directrix: $y = -5$, Focus: $(8, 5)$
18. Endpoints of the Latus Rectum: $(-8, 4)$ and $(12, 4)$
19. Vertex: $(-3\frac{1}{3}, 5)$, Directrix: $x = -7$
20. Directrix: $y = -8$, Focus: $(-3, 2)$
21. Endpoints of the Latus Rectum: $(-4, -10)$ and $(-4, 3)$
22. Vertex: $(3\frac{1}{4}, 7)$, Focus: $(0, 7)$
23. Directrix: $x = -13$, Vertex: $(-9.5, 4)$
24. Directrix: $y = 8$, Focus: $(3, -\frac{1}{2})$
25. Focus: $(3, 2\frac{2}{3})$, Length of Latus Rectum = $9\frac{2}{3}$, Opens left
26. Endpoints of the Latus Rectum: $(7, -4)$ and $(7, 17)$
27. Vertex: $(-6, -8)$, Focus: $(-6, 7)$
28. Directrix: $x = -7$, Focus: $(3, 3)$