

Identifying conics with $b = 0$ of the form $ax^2 + bxy + cy^2 + dx + ey + f = 0$.

For the general equations, state what type of conic each represents. You should be able to transform them using the completing the square method. State the **necessary information** then **GRAPH**.

1. $4x^2 + 9y^2 - 24x - 36y + 36 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

2. $25x^2 + 16y^2 + 50x + 64y - 311 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

3. $4x^2 - 9y^2 - 16x - 54y - 101 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

4. $-4x^2 + 9y^2 + 8x - 36y - 4 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

5. $2x^2 - 12x - y + 23 = 0$

Conic _____

Vertex/vertices _____

Focus/foci _____

Axis of symmetry _____

Length of latus rectum _____

Directrix/directrices _____

Eccentricity _____

6. $3y^2 - x + 6y - 4 = 0$

Conic _____

Vertex/vertices _____

Focus/foci _____

Axis of symmetry _____

Length of latus rectum _____

Directrix/directrices _____

Eccentricity _____

7. $x^2 + y^2 - 4x - 6y - 3 = 0$

Conic _____

Center _____

Radius _____

Eccentricity _____

8. $x^2 + y^2 + 10x + 6y + 16 = 0$

Conic _____

Center _____

Radius _____

Eccentricity _____

9. $-x^2 + 2y^2 + 8x - 24y + 52 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

10. $x^2 - 2y^2 + 10x - 16y - 11 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

11. $2x^2 + y^2 - 20x + 6y + 49 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

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

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

13. $5y^2 + x - 30y + 37 = 0$

Conic _____

Vertex/vertices _____

Focus/foci _____

Axis of symmetry _____

Length of latus rectum _____

Directrix/directrices _____

Eccentricity _____

14. $3x^2 + 24x + y + 55 = 0$

Conic _____

Vertex/vertices _____

Focus/foci _____

Axis of symmetry _____

Length of latus rectum _____

Directrix/directrices _____

Eccentricity _____

15. $3x^2 + 3y^2 + 24x - 30y + 119 = 0$

Conic _____

Center _____

Radius _____

Eccentricity _____

16. $4x^2 + 4y^2 - 24x + 32y + 91 = 0$

Conic _____

Center _____

Radius _____

Eccentricity _____

17. $48x^2 - 120x - 16y + 81 = 0$

Conic _____

Vertex/vertices _____

Focus/foci _____

Axis of symmetry _____

Length of latus rectum _____

Directrix/directrices _____

Eccentricity _____

18. $32y^2 - 8x + 48y + 13 = 0$

Conic _____

Vertex/vertices _____

Focus/foci _____

Axis of symmetry _____

Length of latus rectum _____

Directrix/directrices _____

Eccentricity _____

19. $8x^2 - 12y^2 + 24x + 60y - 105 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

20. $-32x^2 + 48y^2 + 80x + 72y - 215 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

21. $8x^2 + 16y^2 + 24x + 24y - 5 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

22. $24x^2 + 12y^2 - 32x - 20y - 53 = 0$

Conic _____

Center _____

Vertex/vertices _____

Endpoints of minor axis _____

Focus/foci _____

Asymptotes _____

Directrix/directrices _____

Eccentricity _____

23. $27x^2 + 27y^2 + 36x + 18y + 11 = 0$

Conic _____

Center _____

Radius _____

Eccentricity _____

24. $500x^2 + 500y^2 - 400x - 300y + 89 = 0$

Conic _____

Center _____

Radius _____

Eccentricity _____