

1. Find an equivalent equation in rectangular coordinates.

$$x^2 + y^2 = 25$$

$$y^2 = 25 - x^2$$

$$y = \pm \sqrt{25 - x^2}$$

4. Find an equivalent equation in rectangular coordinates.

$$x^2 + y^2 = x$$

$$r = \cos \theta$$

$$y^2 = x - x^2$$

7. Find an equivalent equation in polar coordinates.

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

$$r = 4 \cos \theta$$

10. Find an equivalent equation in rectangular coordinates.

$$y = 8$$

$$r = 8 \csc \theta$$

13. Find an equivalent equation in rectangular coordinates.

$$x^2 + y^2 - 2y = 3x$$

$$r - 2 \sin \theta = 3 \cos \theta$$

$$y^2 - 2y = 3x + x^2$$

2. Find an equivalent equation in rectangular coordinates.

$$x^2 + y^2 = 10y$$

$$r = 10 \sin \theta$$

$$y^2 - 10y = x^2$$

5. Find an equivalent equation in polar coordinates.

$$r = \pm 12$$

$$x^2 + y^2 = 144$$

8. Find an equivalent equation in polar coordinates.

$$x^2 + 4y^2 = 4$$

$$r^2 (\cos^2 \theta + 4 \sin^2 \theta) = 4$$

$$r = \sqrt{\frac{4}{\cos^2 \theta + 4 \sin^2 \theta}}$$

11. Find an equivalent equation in polar coordinates.

$$r^2 \cos 2\theta = 4$$

$$x^2 - y^2 = 4$$

$$r = \sqrt{\frac{4}{\cos^2 \theta - \sin^2 \theta}}$$

14. Find an equivalent equation in polar coordinates.

$$x^2 + (y - 16)^2 = 256$$

$$r = 32 \sin \theta$$

3. Find an equivalent equation in rectangular coordinates.

$$y^2 = 25 - 10x$$

$$r = \frac{5}{1 + \cos \theta}$$

$$y = \pm \sqrt{25 - 10x}$$

6. Find an equivalent equation in polar coordinates.

$$r = 11 \csc \theta$$

$$y = 11$$

9. Find an equivalent equation in rectangular coordinates.

$$x^2 + y^2 = 2y - 2x$$

$$r = 2(\sin \theta - \cos \theta)$$

$$y^2 - 2y = 2x + x^2$$

12. Find an equivalent equation in polar coordinates.

$$r^2 \cos \theta \sin \theta = 1$$

$$xy = 1 \text{ OR}$$

$$r^2 (\sin 2\theta) = 1$$

15. Find an equivalent equation in rectangular coordinates.

$$r = \frac{5}{\cos \theta - \sin \theta}$$

$$x - y = 5$$

