

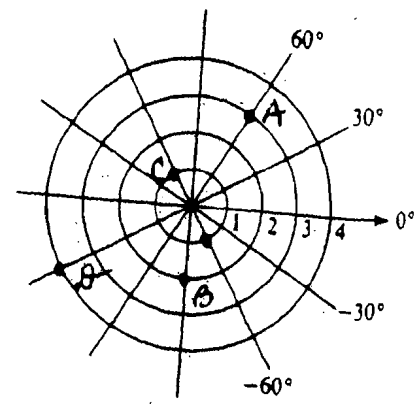
Polar and Rectangular Coordinates

P-1

Give three sets of polar coordinates (r, θ) for each point, including one with negative r and one with negative θ .

1. A

2. C



Find rectangular coordinates for each point. Leave answers in simplest radical form.

3. $(3, 60^\circ)$

4. $(6, -210^\circ)$

5. $(-2, 135^\circ)$

Find polar coordinates for each point. Leave r in simplest radical form as needed.

6. $(-3, 0)$

7. $(-2, -2)$

8. $(-1, \sqrt{3})$

Find a polar equation for the line or curve.

9. $x = 2$

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

Find a rectangular coordinate equation for each polar equation. Identify the graph.

11. $r = 3$

12. $r \sin \theta = 2$