

Section 8.1 - Polar Coordinates p. 587

$$\#26) (6, 2\pi/3) = 6(\cos 120^\circ + i \sin 120^\circ) = \boxed{\left(-3, 3\sqrt{3}\right)}$$

$$\#28) (-1, 5\pi/2) = -1(\cos 450^\circ + i \sin 450^\circ) = (0, -1)$$

$$\#30) (0, 13\pi) = \boxed{(0, 0)}$$

$$\#32) \left(\sqrt{3}, -\frac{3\pi}{2}\right) = +\sqrt{3}(\cos(-300^\circ) + i \sin(-300^\circ)) = \left(+\frac{\sqrt{3}}{2}, +\frac{3}{2}\right)$$

$$\#34) (3\sqrt{3}, -3) \quad r = \sqrt{(3\sqrt{3})^2 + (-3)^2} = \sqrt{36} = 6$$

$$\tan \theta = \frac{-3}{3\sqrt{3}} = -\frac{1}{\sqrt{3}} = 30^\circ \quad \theta = 330^\circ = 6(\cos 330^\circ + i \sin 330^\circ)$$

$$\boxed{\left(6, \frac{11\pi}{6}\right)}$$

$$\#36) (-\sqrt{6}, -\sqrt{2}) \quad \theta = \tan^{-1}\left(\frac{\sqrt{2}}{\sqrt{6}}\right) = 30^\circ$$

$$r = \sqrt{(-\sqrt{6})^2 + (-\sqrt{2})^2} = \sqrt{8} = 2\sqrt{2}$$

$$= 2\sqrt{2}(\cos 210^\circ + i \sin 210^\circ) = \boxed{\left(2\sqrt{2}, \frac{7\pi}{6}\right)}$$

$$\#38) (1, -2) \quad r = \sqrt{(1)^2 + (-2)^2} = \sqrt{5}$$

$$\theta = \tan^{-1}\left(-\frac{2}{1}\right) \approx 63^\circ \quad \theta \approx 297^\circ = \boxed{\left(\sqrt{5}, 297^\circ\right)}$$

$$\#40) (0, -\sqrt{3}) = \theta = 270^\circ = \frac{3\pi}{2}$$

$$r = \sqrt{0^2 + (-\sqrt{3})^2} = \sqrt{3}$$

$$= \boxed{\left(\sqrt{3}, \frac{3\pi}{2}\right)}$$