3. $(-1, -\sqrt{3}) = \left(-2, \frac{\pi}{3}\right)$
$(0, 2) = \left(2, \frac{\pi}{2}\right)$
$(3, 0) = (3, 0)$
$(-1, 0) = (1, \pi)$
$(0, -4) = \left(4, \frac{3\pi}{2}\right)$

Quick Review 6.4

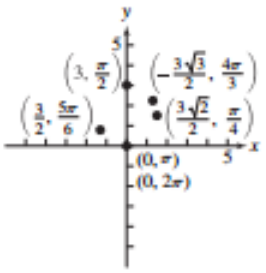
1. (a) Quadrant II
(b) Quadrant III
2. (a) Quadrant I
(b) Quadrant III
3. Possible answers: $7\pi/4, -9\pi/4$
4. Possible answers: $7\pi/3, -5\pi/3$
5. Possible answers: $520°, -200°$
6. Possible answers: $240°, -480°$
7. $(x - 3)^2 + y^2 = 4$
8. $x^2 + (y + 4)^2 = 9$
9. $a^2 = 12^2 + 10^2 - 2(12)(10)\cos 60°$
$a \approx 11.14$
10. $a^2 = 9^2 + 6^2 - 2(9)(6)\cos 40°$
$a \approx 5.85$

Section 6.4 Exercises

1. $\left(-\frac{3}{2}, \frac{3\sqrt{3}}{2}\right)$
2. $(2\sqrt{2}, 2\sqrt{2})$
3. $(-1, -\sqrt{3})$
4. $\left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$
5. (a)

θ	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{5\pi}{6}$	π	$\frac{4\pi}{3}$	2π
r	$\frac{3\sqrt{2}}{2}$	3	$\frac{3}{2}$	0	$\frac{-3\sqrt{3}}{2}$	0

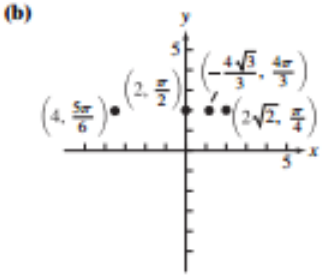
(b)

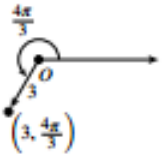


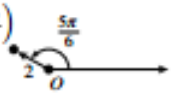
6. (a)

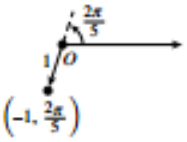
θ	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{5\pi}{6}$	π	$\frac{4\pi}{3}$	2π
r	$2\sqrt{2}$	2	4	undefined	$\frac{-4\sqrt{3}}{2}$	undefined

(b)

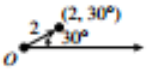


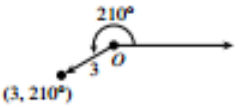
7. 

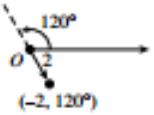
8. $\left(2, \frac{5\pi}{6}\right)$ 

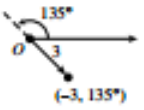
9. 

10. $\left(-3, \frac{17\pi}{10}\right)$ 

11. 

12. 

13. 

14. 

15. $\left(\frac{3}{4}, \frac{3}{4}\sqrt{3}\right)$
16. $\left(\frac{5}{4}\sqrt{2}, \frac{5}{4}\sqrt{2}\right)$
17. $(-2.70, 1.30)$
18. $(1.62, 1.18)$
19. $(2, 0)$
20. $(0, 1)$

21. $(0, -2)$

22. $(-3, 0)$

23. $\left(2, \frac{\pi}{6} + 2n\pi\right)$ and $\left(-2, \frac{\pi}{6} + (2n + 1)\pi\right)$, n an integer

24. $\left(1, -\frac{\pi}{4} + 2n\pi\right)$ and $\left(-1, -\frac{\pi}{4} + (2n + 1)\pi\right)$, n an integer

25. $(1.5, -20^\circ + 360n^\circ)$ and $(-1.5, 160^\circ + 360n^\circ)$, n an integer

26. $(-2.5, 50^\circ + 360n^\circ)$ and $(2.5, 230^\circ + 360n^\circ)$, n an integer

27. **(a)** $\left(\sqrt{2}, \frac{\pi}{4}\right)$ or $\left(-\sqrt{2}, \frac{5\pi}{4}\right)$

(b) $\left(\sqrt{2}, \frac{\pi}{4}\right)$ or $\left(-\sqrt{2}, -\frac{3\pi}{4}\right)$

(c) The answers from **(a)**, and also $\left(\sqrt{2}, \frac{9\pi}{4}\right)$ or $\left(-\sqrt{2}, \frac{13\pi}{4}\right)$

28. **(a)** $(\sqrt{10}, \tan^{-1} 3) \approx (\sqrt{10}, 1.25)$ or $(-\sqrt{10}, \tan^{-1} 3 + \pi) \approx (-\sqrt{10}, 4.39)$

(b) $(\sqrt{10}, \tan^{-1} 3) \approx (\sqrt{10}, 1.25)$ or $(-\sqrt{10}, \tan^{-1} 3 - \pi) \approx (-\sqrt{10}, -1.89)$

(c) The answers from **(a)**, and also $(\sqrt{10}, \tan^{-1} 3 + 2\pi) \approx (\sqrt{10}, 7.53)$ or $(-\sqrt{10}, \tan^{-1} 3 + 3\pi) \approx (-\sqrt{10}, 10.67)$