5. a. $f\left(\frac{-\pi}{2}\right) = \sqrt{\frac{-\pi}{2}}\left(\cos\frac{-\pi}{2}\right)$

$\sqrt{\frac{-\pi}{2}}$

no real value

b. $f(\pi) = \sqrt{\pi}(\cos\pi)$

$= -\sqrt{\pi}$

c. $f(2\pi) = \sqrt{2\pi}(\cos 2\pi)$

$= \sqrt{2\pi}$

6. a. $f(x) = x^2(\sin x)$

$= \left(\frac{-\pi}{2}\right)^2\left(\sin\frac{-\pi}{2}\right)$

$= \frac{\pi^2}{4}(-1) = -\frac{\pi^2}{4}$

b. $f(\pi) = (\pi)^2(\sin\pi)$

$= \pi^2 \cdot 0 = 0$

c. $f\left(\frac{5\pi}{2}\right) = \left(\frac{5\pi}{2}\right)^2\left(\sin\frac{5\pi}{2}\right)$

$= \frac{25\pi^2}{4} \cdot 1 = \frac{25\pi^2}{4}$

7-8 (on graph paper)

13. $\boxed{\frac{-\pi}{2}}$ 14. $\boxed{\pi}$ 15. $\boxed{\frac{-\pi}{2}}$

16. $\boxed{\frac{-\pi}{3}}$ 17. $\boxed{\frac{3\pi}{4}}$ 18. $\boxed{\frac{2\pi}{3}}$

19. $\boxed{\sqrt{3}}$ 20. $\boxed{2}$ 21. $\boxed{-\sqrt{3}}$

22. $\boxed{\pi}$ 23. $\boxed{\frac{-\pi}{2}}$ 24. $\boxed{\frac{5\pi}{6}}$

25. $\boxed{\frac{6\sqrt{11}}{11}}$ 26. $\boxed{\frac{-\pi}{4}}$ 27. $\boxed{-\frac{\sqrt{29}}{2}}$

28. $\boxed{\frac{\sqrt{2x-x^2}}{2x-x^2}}$ 29. $\boxed{\sqrt{x^2+1}}$ 30. $\boxed{\frac{\sqrt{7(x^2+7)}}{x^2+7}}$