

Problem Set 23

2. $x = \frac{7\pi}{18}, \frac{11\pi}{18}, \frac{19\pi}{18}, \frac{23\pi}{18}, \frac{31\pi}{18}, \frac{35\pi}{18}$

4. ellipse

6.
$$\begin{aligned} &x^8 + 8x^7(\Delta x) + 28x^6(\Delta x)^2 \\ &+ 56x^5(\Delta x)^3 + 70x^4(\Delta x)^4 \\ &+ 56x^3(\Delta x)^5 + 28x^2(\Delta x)^6 \\ &+ 8x(\Delta x)^7 + (\Delta x)^8 \end{aligned}$$

8. $g(x) = \frac{1}{x+2} + 3$

10. -4

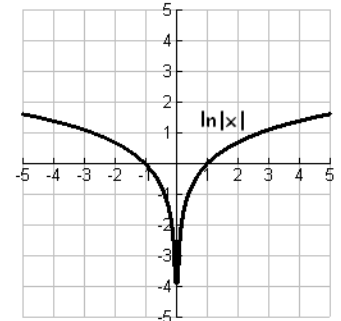
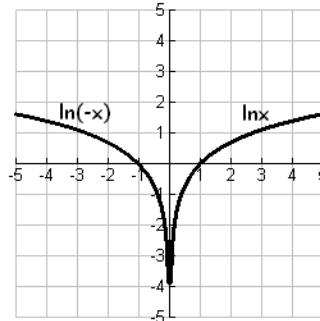
12. $f(x) : D = \{x \in \mathbb{R}\};$
 $R = \{y \in \mathbb{R} \mid [-1, 1]\}$

$g(x) : D = \{x \in \mathbb{R}\};$
 $R = \{y \in \mathbb{R} \mid [0, \infty)\}$

14. $-\frac{3}{4}$

16. 0

18.



20. $k = -2$

22. $x = -3.5970, 5.7582$

24. $4\sqrt{3}$