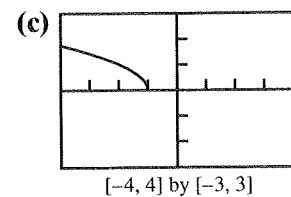
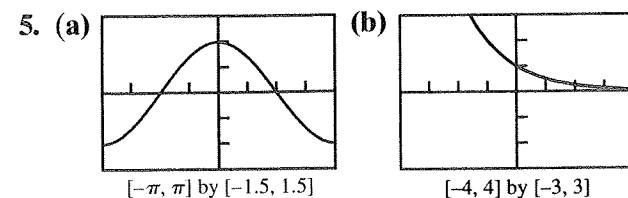
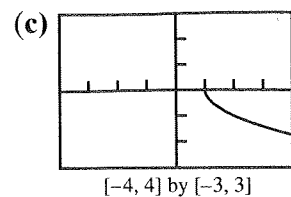
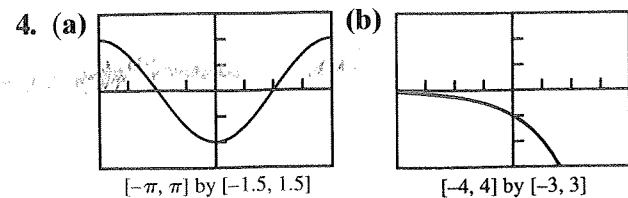
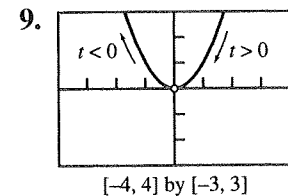
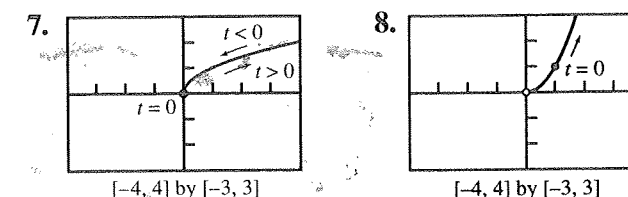
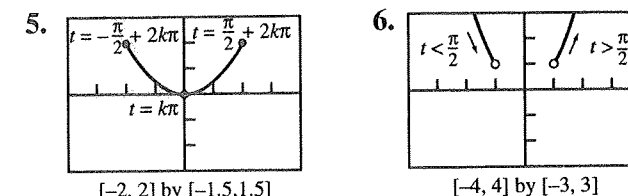
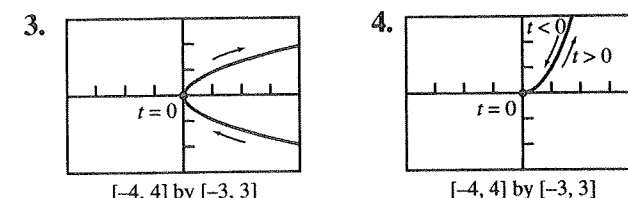
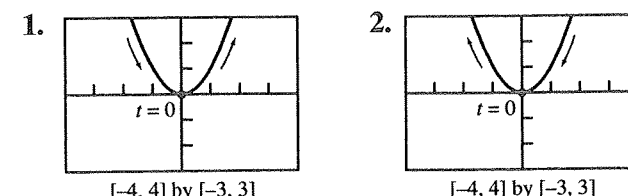


3. Yes. Even functions have y-axis symmetry, while odd functions are symmetric about the origin.

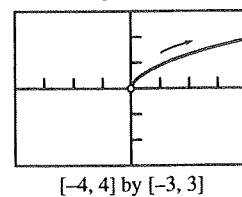


Section 1.4



10. $x = g(t), y = f(t); 3$

11. $x = e^{2t}, y = e^t$



12. (a) One possible answer:

$x = t^2, y = -t$

(b) One possible answer:

$x = \frac{1}{t^2}, \frac{1}{|t|}$

Sections 2.2-2.3

- Both
- Neither
- Right end behavior model
- Left end behavior model
- (a) Continuous at $x = c$
(b) Discontinuous at $x = c$; removable discontinuity
(c) Discontinuous at $x = c$; removable discontinuity
(d) Discontinuous at $x = c$; jump discontinuity
(e) Discontinuous at $x = c$; infinite discontinuity
(f) Discontinuous at $x = c$; infinite discontinuity

6. Possible answers:

(a) $f(x) = \frac{1}{x}$ (b) $f(x) = \frac{1}{x^2 - 4}$

(c) $f(x) = \tan x$

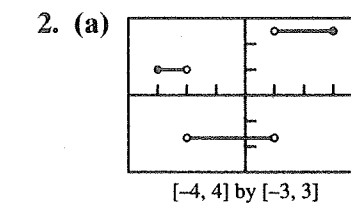
7. Possible answers:

(a) $f(x) = 3x^2 - 5$

(b) $f(x) = \begin{cases} 0, & \text{if } x \text{ is rational} \\ 1, & \text{if } x \text{ is irrational} \end{cases}$

Sections 3.1-3.3

- (a) $\frac{3\pi}{2}$ (b) $\frac{\pi}{2} + 1$
(c) $-4\frac{3}{4}$ (d) $\frac{13}{36}$
(e) $-\pi$ (f) $\frac{\pi}{8}$
(g) $\frac{2}{9}$ (h) $\frac{\sqrt{13}}{2}$



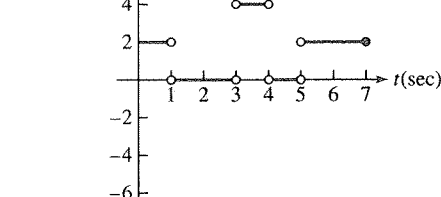
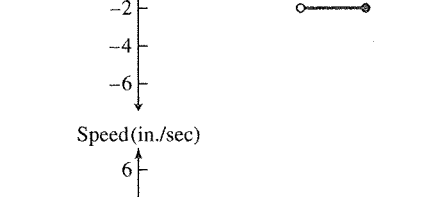
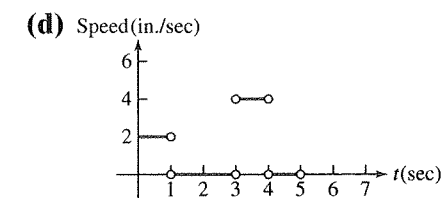
(b) $x = -2, x = 1$

- (a) None (b) $x = 0$
(c) $x = 0$ (d) $x = 0$
(e) $x \leq 0, x = 1$ (f) $x = 0$

4. Corner points, cusp points, very sharply changing points, as well as points at which the function is discontinuous or the tangent line is vertical.

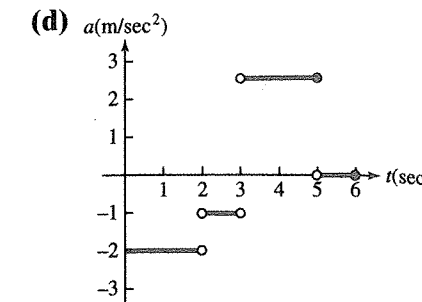
Section 3.4

- (a) $5 < t < 7$
(b) $0 < t < 1, 3 < t < 4$
(c) $1 < t < 3, 4 < t < 5$



(e) $3 < t < 4$

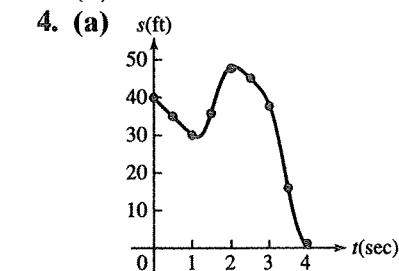
- (a) At $t = 1$ sec and at $t \approx 4.25$ sec
(b) $5 < t \leq 6$ (c) $t = 3$ sec



- (a) 108 cm (b) 18 cm/sec

(c) $v(t) = \frac{1}{2}t^2 + 4t; a(t) = t + 4$

(d) none

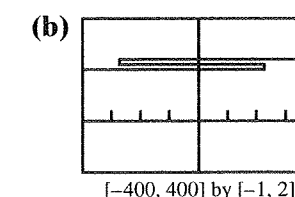


(b) -10 ft/sec; -10 ft/sec; -29 ft/sec

(c) $t \approx 1$ sec, $t \approx 2$ sec

(d) $t \approx 3.5$ sec

- (a) $t = -3, x = 228; t = 7, x = -272$



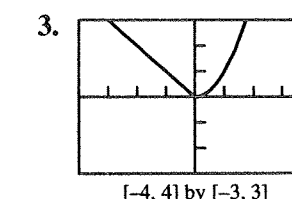
Section 3.7

1. $\frac{dy}{dx} = \frac{y^2 - 5x^4 - 4x^3y}{x^4 - 2xy - 3y^2}$

2. (a) -1

(b) -1

(c) 4



4. No; The expression is undefined at $(0, 0)$.

5. 0

6. -1