

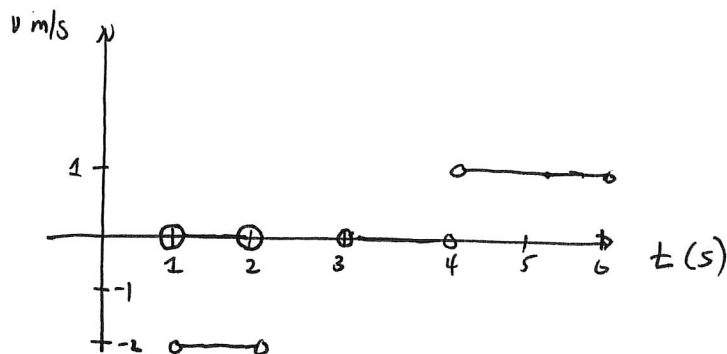
0.1 Section 2.7

3 (a) 2 (b) 2

7 $y = \frac{1}{2}x + \frac{1}{2}$.

11 (a) The particle is moving to the right when s is increasing; that is, on the intervals $(0, 1)$ and $(4, 6)$. The particle is moving to the left when s is decreasing; that is, on the interval $(2, 3)$. The particle is standing still when s is constant; that is, on the intervals $(1, 2)$ and $(3, 4)$.

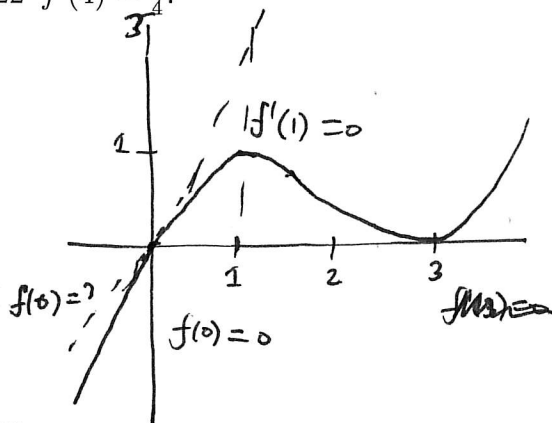
(b) The velocity of the particle is equal to the slope of the tangent line of the graph. Notice that there is no slope at the corner points.



13 -24 ft/s.

16 (a) Your average velocities should be: 0, 1, 3, 4 in ft/s. (b) 2ft/s.

22 $f'(4) = \frac{1}{4}$.



23

31 $6a - 4$

35 $\frac{-1}{\sqrt{1-2a}}$

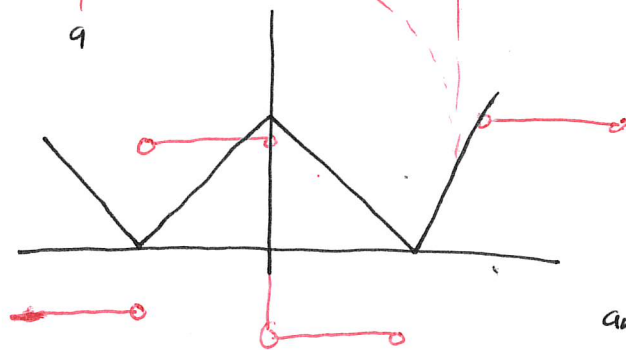
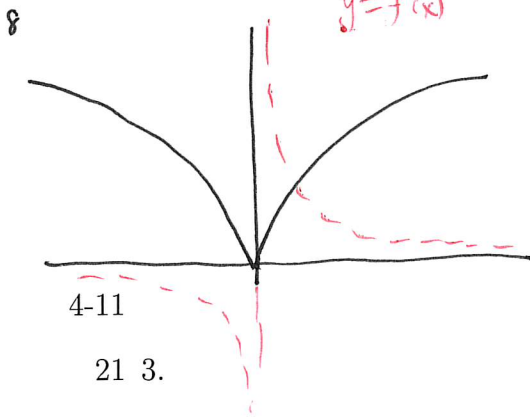
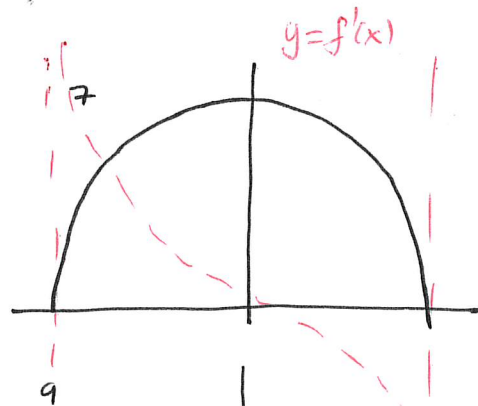
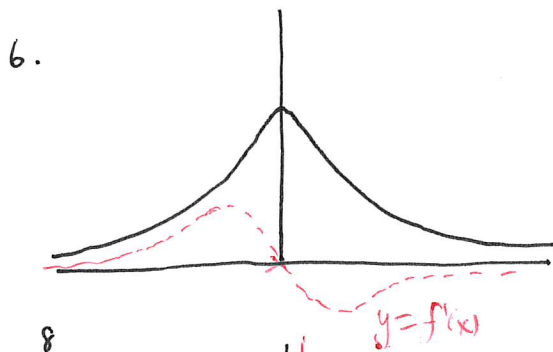
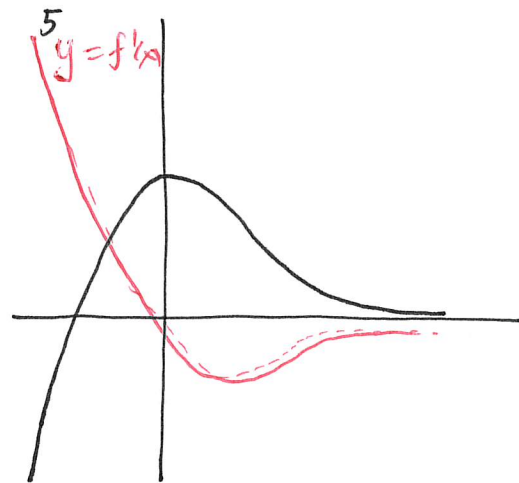
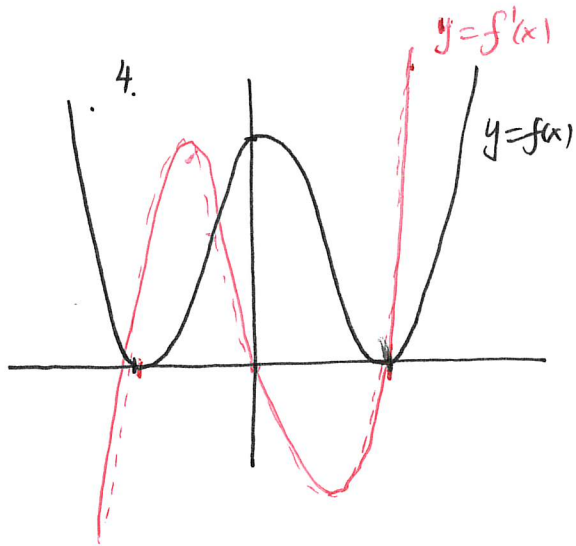
51 (a) \$20.25/unit, 20.05/unit (b) \$20/unit.

59 $f'(0)$ does not exist because $\lim_{h \rightarrow 0} \sin(1/h)$ d.n.e.

60 $f'(0) = 0$. Use the squeeze theorem!

0.2 Section 2.8

3 (a)' = II, (b)' = IV, (c)' = I, (d)' = III.



4-11

21 3.

25 $2x - 6x^2$

26 $\frac{-1}{t(2\sqrt{t})}$

28 $\frac{2x^2 - 6x + 2}{(2x - 3)^2}$

41 f is not differentiable at $x = 4$ and $x = 0$.

42 $x = -1$ and $x = 2$

43 $x = 1$ and $x = 5$.

and so on.
see next
page for 10, 11

44 $x = -2$ and $x = 3$.

53 $6x + 2$

54 g is not differentiable at $x = 0$.

