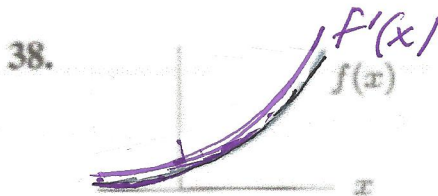
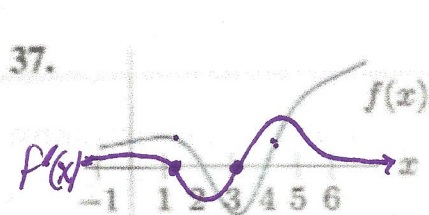
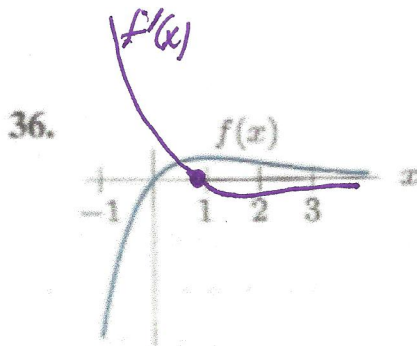
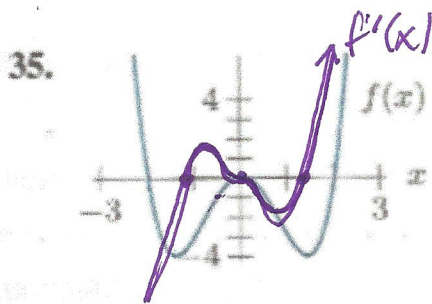
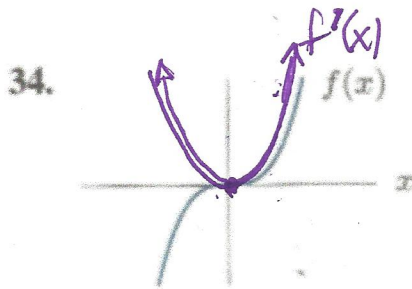
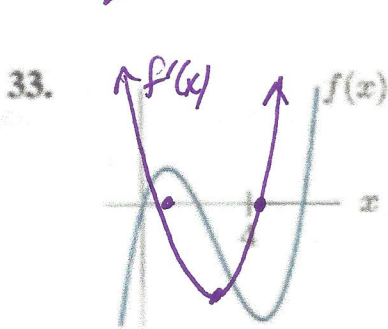
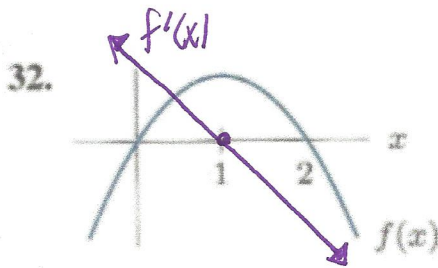
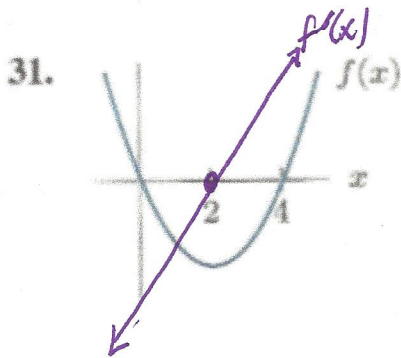
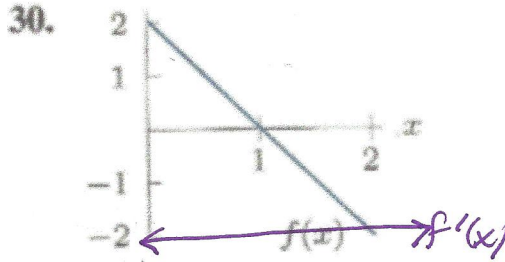
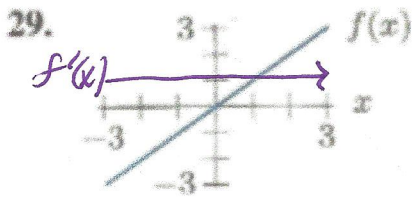


For Problems 29–38, sketch the graph of $f'(x)$.



DAY 32

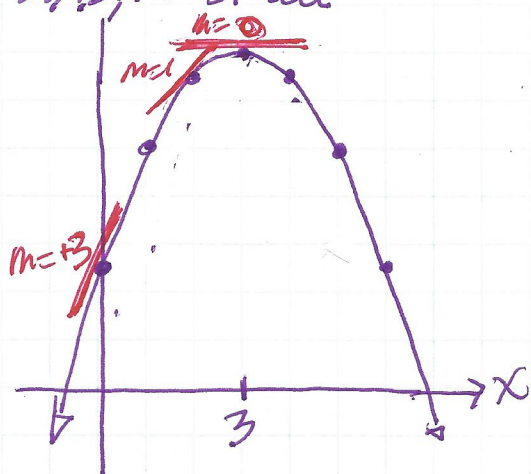
pp. 96-97 # 29-38, 39, 43, 47-51 all see GRAPHS

29

(1, 3) is on $f(x)$

$f'(0) = 3$ $f'(2) = 1$ $f'(3) = 0$

$y = -\frac{1}{2}(x-3)^2 + 7$ — equation.



43

figure 2.35

f' graph is shown

a) f is increasing when $f'(x) > 0$ (above x -axis) $x \in (x_1, x_3)$

b) f is decreasing when $f'(x) < 0$ (below x -axis) $x \in (0, x_1) \cup (x_3, x_5)$

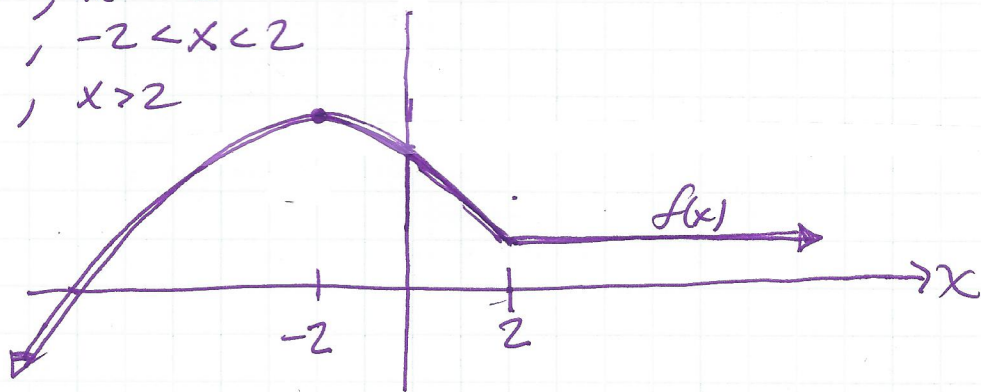
47

f is a continuous function

$f'(x) > 0$, $x < -2$

$f'(x) < 0$, $-2 < x < 2$

$f'(x) = 0$, $x > 2$



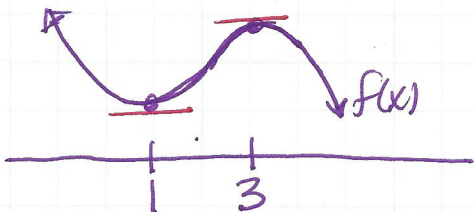
48

$f(x)$ continuous

$f'(x) > 0$, (1, 3)

$f'(x) < 0$, $x < 1, x > 3$

$f'(x) = 0$, $x = 1, 3$



49

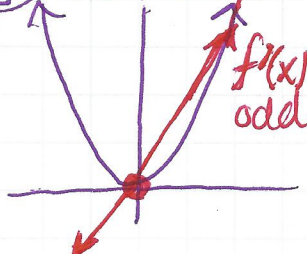
$\lim_{x \rightarrow \infty} f(x) = 50 \therefore$ HA $y = 50$

$\lim_{x \rightarrow \infty} f'(x) = 0$ since $f(x)$ has a horizontal asymptote as $x \rightarrow \infty$.

slope of horizontal line is zero.

50

$f(x)$ even



51

$f(x)$ odd $f'(x)$ even

