MATH 1306 - Homework Handout # 8
Answers to Odd-numbered Problems

1a. $g'(0) = -12$; the function g is decreasing since $g'(0) < 0$

1b. $g'(3) = -3$; the function g is decreasing since $g'(3) < 0$

1c. No; the point $(2, 0)$ is not a turning point since the function g does not change direction (increasing/decreasing) at this point.

1d. $g''(0) = 12$; the function g is concave up since $g''(0) > 0$

1e. $g''(3) = -6$; the function g is concave down since $g''(3) < 0$

1f. Yes; the point $(2, 0)$ is an inflection point since the function g changes concavity at this point.

3a. part iii: -42; part ii. concave down

3b. part iii: 42; part i concave up

3c. part ii: Yes, the function changes from concave down to concave up at $x = 1$

5. $I'(6) = 14.4$ means that the CPI is increasing at this time, that is, prices are increasing, and so there is inflation at this time.
$I''(6) = -1.2$ means that the rate of inflation is decreasing or that inflation is moderating at this time.