Answer key for Test1, 136.169, November 6, 20001

1. a) 0, b) 0, c) 5, d) 2.

2. a) f'(x) = $4(\cos(5x^3))^3(-\sin(5x^3))\ 15x^2$

b) $f'(x) = \dfrac{(\sec^2 x + \frac{2}{2\sqrt{2x}})(5x - 3x^2) - (\tan x + \sqrt{2x})(5 - 6x)}{(5x - 3x^2)^2}$

c) $f'(x) = \frac{1}{3}(2x^2 + (x-1)^3 \sin(2-x))^{\frac{-2}{3}} (4x + 3(x-1)^2 \sin(2-x) + (x-1)^3 \cos(2-x)(-1))$

4 b) Not removable ...

5. b) g'(c) = 2 f'(c) .

6. Case 1. $x = \sqrt{2}, k = \dfrac{4\sqrt{2}}{3}$. Case 2. $x = -\sqrt{2}, k = \dfrac{-4\sqrt{2}}{3}$.