QUIZ #11: CALCULUS 1A (Stankova)
Wednesday, April 14, 2004
Section 10:00–11:00 (Voight)

Problem 1. *Find the antiderivative F of f that satisfies the given condition.*
$$f(x) = 4 - \sec^2(2x), \quad F(\pi) = 0.$$

SOLUTION. We compute that
$$F(x) = 4x - \tan(2x)/2 + C.$$
Since $F(\pi) = 0$, we have
$$F(\pi) = 4\pi - \tan(2\pi)/2 + C = 4\pi - 0 + C = 0$$
so $C = -4\pi$. Therefore
$$F(x) = 4x - \tan(2x)/2 - 4\pi.$$

QUIZ #11: CALCULUS 1A (Stankova)
Wednesday, April 14, 2004
Section 11:00–12:00 (Voight)

Problem 1. *Find f, if*

$$f''(x) = \sin x + x^{-1/2}.$$

SOLUTION. We have

$$f'(x) = -\cos x + 2x^{1/2} + C$$

and so

$$f(x) = -\sin x + 4x^{3/2}/3 + Cx + D.$$