Math 2B Worksheet: 4.9 Antiderivatives

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1. Find the general antiderivative for the following functions.

$f(x) = 4x + 7$ $\qquad$ $f(x) = e^2$ $\qquad$ $f(x) = \dfrac{-7}{\sqrt{1-x^2}}$

$f(x) = 7x^{2/5} + 8x^{-4/5}$ $\qquad$ $h(x) = 2\sin x - \sec^2 x$

$f(s) = 2^s + \sec s \tan s$ $\qquad$ $h(v) = 1 + 2\cos v + \frac{3}{\sqrt{v}}$

2. Find f.

$f''(x) = 20x^3 - 12x^2 + 6x$ $\qquad\qquad$ $f'(x) = 5x^4 - 3x^2 + \dfrac{3}{1+x^2},\ f(0) = 0$

$f'(x) = \dfrac{x+1}{\sqrt{x}}$ $\qquad\qquad$ $f''(x) = e^x - 2\sin x,\ f(0) = 3,\ f(\pi/2) = 3$

$f'(t) = \sec t(\sec t + \tan t),\ -\pi/2 < t < \pi/2,\ f(\pi/4) = 1$