

10/07

Worksheet #6

1) Find the general antiderivatives of the following functions

$$a) f(x) = x^{10} - 5x^5 + 3$$

$$b) f(x) = x^{-3} + x^{5/3} + e^x \quad (x > 0)$$

$$c) f(x) = \frac{1}{x} + \frac{4}{x^4} - \cos(4x) \quad (x > 0)$$

$$d) f(x) = e^{x^2+2x}(x+1)$$

$$e) f(x) = 4x^3 \sin(x) + x^4 \cos(x)$$

2) Find the antiderivatives with the corresponding initial value

$$a) f(x) = x^2 + 3x, \quad F(0) = 5$$

$$b) f(x) = x^{1/3}, \quad F(27) = 90$$

$$c) f(x) = x \sin(\pi x), \quad F(1/2) = 3$$