

Math 0120 Assignment Homework_09 is due : 08/29/2012 at 02:14pm EDT.

Reference: Berresford, Sections 5.1, 5.2

1. (1 pt) Evaluate the indefinite integral:

$$\int 6e^t dt = \text{_____} + C.$$

2. (1 pt) Evaluate the indefinite integral:

$$\int \frac{e^x - 7x}{3} dx = \text{_____} + C.$$

3. (1 pt) A car traveling at 42 ft/sec decelerates at a constant 6 ft/sec^2 . How many feet does the car travel before coming to a complete stop?

4. (1 pt) Evaluate the indefinite integral:

$$\int \frac{5 - 3xe^x}{x} dx = \text{_____} + C.$$

5. (1 pt)

Using an upper-case "C" for any arbitrary constants, find the general indefinite integral

$$\int (6 - \sqrt{x})^2 dx$$

Integral = _____

6. (1 pt) Evaluate the indefinite integral:

$$\int 3x^4 - \frac{4}{x^3} - 3 dx = \text{_____} + C.$$

7. (1 pt) Evaluate the indefinite integral:

$$\int \frac{6x^4 - 7x}{x^3} dx = \text{_____} + C.$$

8. (1 pt) Evaluate the indefinite integral:

$$\int \left(\frac{7}{\sqrt[3]{x}} - 3\sqrt[3]{x^2} \right) dx = \text{_____} + C.$$

9. (1 pt) Evaluate the indefinite integral:

$$\int (4x^2 + 6x - 6) dx = \text{_____} + C.$$

10. (1 pt) The production rate r for an oil well in barrels/day is modeled by

$$r(t) = 195e^{-0.2t}$$

where t is the number of years .

Find the total oil production in the first 3 years of operation.

Total production = _____ barrels