

(C1-8.3a) Name:

Homework Questions 3 – Integration using the Integral Sign

Integrate the following

1. $\int 3x^2 + 2x - 5 \, dx$

$$x^3 + x^2 - 5x + c$$

2. $\int 5x^2 - 3x + 6 \, dx$

$$\frac{5x^3}{3} - \frac{3x^2}{2} + 6x + c$$

3. $\int 2x^2 + 5x - 3 \, dx$

$$\frac{2x^3}{3} + \frac{5x^2}{2} - 3x + c$$

4. $\int 4x^{-2} + 3x^{-3} \, dx$

$$-4x^{-1} - \frac{3x^{-2}}{2} + c$$

5. $\int 2x^{-\frac{2}{3}} + 3x^{-\frac{3}{4}} \, dx$

$$6x^{\frac{1}{3}} + 12x^{\frac{1}{4}} + c$$

6. $\int 7x^{-5} + 5x^{-3} + 4 \, dx$

$$-\frac{7x^{-4}}{4} - \frac{5x^{-2}}{2} + 4x + c$$

7. $\int x^3 + x^2 + x + 1 \, dx$

$$\frac{x^4}{4} + \frac{x^3}{3} + \frac{x^2}{2} + x + c$$

8. $\int 5x^{-3} + 2x^{-2} + x \, dx$

$$-\frac{5x^{-2}}{2} - 2x^{-1} + \frac{x^2}{2} + c$$

9. $\int 9x^5 + 8x^4 + 7x^3 + 3 \, dx$

$$\frac{3x^6}{2} + \frac{8x^5}{5} + \frac{7x^4}{4} + 3x + c$$

10. $\int 6x + 4 \, dx$

$$3x^2 + 4x + c$$