



תרגול אינטגרל מסוים של פולינום - רמה 2

תזכורת - הנוסחה הכללית לאינטגרל של פולינום היא:

$$\int ax^n dx = \frac{a}{n+1} x^{n+1} + C$$

11. $\int_{-2}^3 (4x^4 + 2x^3 - 3x^2 + 5x - 1) dx$

6. $\int_{-2}^3 (5x^4 + x^3 - 2x^2 + 3x - 4) dx$

2. $\int_0^5 (x^5 - 2x^4 + 3x^3 + 4x^2 - 5x + 2) dx$

7. $\int_0^5 (x^6 - 2x^5 + 3x^4 + 4x^3 - 5x^2 + 2x - 1) dx$

3. $\int_{-3}^2 (6x^5 + 4x^4 + x^3 - 2x^2 + 3x - 1) dx$

8. $\int_{-3}^2 (4x^5 + 3x^4 + x^3 - 2x^2 + 5x - 1) dx$

4. $\int_{-1}^1 (3x^4 + 2x^3 - x^2 + 4x + 2) dx$

9. $\int_{-1}^1 (x^4 + 2x^3 - 3x^2 + 4x + 5) dx$

5. $\int_1^4 (2x^5 - 3x^4 + 4x^3 + x^2 - 2x + 3) dx$

10. $\int_1^4 (3x^5 - x^4 + 2x^3 + 5x^2 - 4x + 1) dx$



רמזים פתרון

$$1. \int_{-2}^3 (4x^4 + 2x^3 - 3x^2 + 5x - 1) dx = 4x^5 + \frac{1}{2}x^4 - x^3 + \frac{5}{2}x^2 - x \Big|_{-2}^3$$

$$2. \int_0^5 (x^5 - 2x^4 + 3x^3 + 4x^2 - 5x + 2) dx = \frac{1}{6}x^6 - \frac{1}{2}x^5 + \frac{3}{2}x^4 + \frac{4}{3}x^3 - \frac{5}{2}x^2 + 2x \Big|_0^5$$

$$3. \int_{-3}^2 (6x^5 + 4x^4 + x^3 - 2x^2 + 3x - 1) dx = x^6 + x^5 + \frac{1}{2}x^4 - \frac{2}{3}x^3 + \frac{3}{2}x^2 - x \Big|_{-3}^2$$

$$4. \int_{-1}^1 (3x^4 + 2x^3 - x^2 + 4x + 2) dx = \frac{3}{5}x^5 + \frac{1}{2}x^4 - \frac{1}{3}x^3 + 2x^2 + 2x \Big|_{-1}^1$$

$$5. \int_1^4 (2x^5 - 3x^4 + 4x^3 + x^2 - 2x + 3) dx = \frac{1}{6}x^6 - \frac{3}{5}x^5 + x^4 + \frac{1}{3}x^3 - x^2 + \frac{3}{2}x \Big|_1^4$$

$$6. \int_{-2}^3 (5x^4 + x^3 - 2x^2 + 3x - 4) dx = x^5 + \frac{1}{5}x^4 - \frac{2}{3}x^3 + \frac{3}{2}x^2 - 4x \Big|_{-2}^3$$



7.

$$\int_0^5 (x^6 - 2x^5 + 3x^4 + 4x^3 - 5x^2 + 2x - 1) dx = \frac{1}{7}x^7 - \frac{1}{6}x^6 + \frac{3}{5}x^5 + \frac{2}{3}x^4 - \frac{5}{3}x^3 + x^2 - x \Big|_0^5$$

8. $\int_{-3}^2 (4x^5 + 3x^4 + x^3 - 2x^2 + 5x - 1) dx = \frac{4}{6}x^6 + \frac{3}{5}x^5 + \frac{1}{2}x^4 - \frac{2}{3}x^3 + \frac{5}{2}x^2 - x \Big|_{-3}^2$

9. $\int_{-1}^1 (x^4 + 2x^3 - 3x^2 + 4x + 5) dx = \frac{1}{5}x^5 + \frac{1}{2}x^4 - x^3 + 2x^2 + 5x \Big|_{-1}^1$

10. $\int_1^4 (3x^5 - x^4 + 2x^3 + 5x^2 - 4x + 1) dx = \frac{3}{6}x^6 - \frac{1}{5}x^5 + x^4 + \frac{5}{3}x^3 - 2x^2 + x \Big|_1^4$