

4 . UNITATEA POLNOMIOAK



1.1.Polinomioen arteko batuketak eta kenketak egiteko laguntza

1 Honako polinomio hauek emanda, egin ondoren adierazten diren eragiketak:

$$A = 2x^3 - 7x^2 + 1$$

$$B = 5x^2 - 4x + 2$$

$$C = 4x^3 + 2x^2 - 5x$$

a) $A + B$

$$\begin{array}{r} 2x^3 - 7x^2 + 1 \\ 5x^2 - 4x + 2 \\ \hline \square x^3 - \square x^2 - \square x + \square \end{array}$$

b) $B - C$

$$\begin{array}{r} 5x^2 - 4x + 2 \\ -4x^3 - 2x^2 + 5x \\ \hline \square x^3 + \square x^2 + \square x + \square \end{array}$$

c) $3C - 2A$

$$\begin{array}{r} 12x^3 + 6x^2 - 15x \\ -4x^3 + 14x^2 - 2 \\ \hline \square x^3 + \square x^2 - \square x - \square \end{array}$$

d) $A - B + C$

$$\begin{array}{r} 2x^3 - 7x^2 + 1 \\ - 5x^2 + 4x - 2 \\ 4x^3 + 2x^2 - 5x \\ \hline \square x^3 - \square x^2 - \square x - \square \end{array}$$

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1.2. Bi polinomioren arteko biderketak egiteko laguntza

1 Honako polinomio hauek emanda, egin ondoren adierazten diren eragiketak:

$$A = x^2 - 5x + 2$$

$$B = x^2 + 1$$

a) $A \cdot B$

$$\begin{array}{r} x^2 - 5x + 2 \\ \times x^2 + 1 \\ \hline \boxed{}x^2 - \boxed{}x + \boxed{} \\ \boxed{}x^4 - \boxed{}x^3 + \boxed{}x^2 \\ \hline x^4 - \boxed{}x^3 + \boxed{}x^2 - \boxed{}x + \boxed{} \end{array}$$

b) $B \cdot B$

$$\begin{array}{r} x^2 + 1 \\ \times x^2 + 1 \\ \hline \boxed{}x^2 + \boxed{} \\ \boxed{}x^4 + \boxed{}x^2 \\ \hline \boxed{}x^4 + \boxed{}x^2 + \boxed{} \end{array}$$

2 Kalkulatu.

$$\begin{aligned} \text{a) } (2x^2 - 5x + 3)(4x - 2) &= \boxed{}x^3 - \boxed{}x^2 - \boxed{}x^2 + \boxed{}x + \boxed{}x - \boxed{} = \\ &= \boxed{}x^3 - \boxed{}x^2 + \boxed{}x - \boxed{} \end{aligned}$$

$$\begin{aligned} \text{b) } (x^2 - 3x)(3x^3 - 5x^2 + 2) &= \boxed{}x^5 - \boxed{}x^4 + \boxed{}x^2 - \boxed{}x^4 + \boxed{}x^3 - \boxed{}x = \\ &= \boxed{}x^5 - \boxed{}x^4 + \boxed{}x^3 + \boxed{}x^2 - \boxed{}x \end{aligned}$$

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1.3. Bi polinomioren arteko zatiketak egiteko laguntza

1. Egin ondoko zatiketa hauek:

$$\begin{array}{r} \text{a) } x^4 - 2x^3 - 11x^2 + 30x - 20 \quad \bigg| \quad x^2 + 3x - 2 \\ \hline x^4 \quad x^3 \quad x^2 \quad x^2 \quad x \\ \hline x^3 \quad x^2 \quad x \\ \hline x^3 \quad x^2 \quad x \\ \hline x^2 \quad x \\ \hline x^2 \quad x \\ \hline x \end{array}$$

$$\begin{array}{r} \text{b) } x^6 - 5x^4 + 3x^2 - 2x \quad \bigg| \quad x^2 - x + 3 \\ \hline x^6 \quad x^5 \quad x^4 \quad x^4 \quad x^3 \quad x^2 \quad x \quad \square \\ \hline x^5 \quad x^4 \quad x^2 \quad x \\ \hline x^5 \quad x^4 \quad x^3 \\ \hline x^4 \quad x^3 \quad x^2 \quad x \\ \hline x^4 \quad x^3 \quad x^2 \\ \hline x^2 \quad x \\ \hline x^2 \quad x \quad \square \\ \hline x \quad \square \end{array}$$



$$\begin{array}{r}
 \text{c) } 2x^5 + \quad 2x^3 \quad -x - 8 \quad \Bigg| \quad -x^3 + 3x - 1 \\
 \begin{array}{r}
 x^5 \qquad \quad x^3 \quad x^2 \\
 \hline
 \qquad x^3 \quad x^2 \quad x \\
 \qquad x^3 \qquad \qquad x \\
 \hline
 \qquad \qquad x^2 \quad x
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{2. a) } -4x^4 + 2x^3 - \frac{15}{2}x^2 + x + 2 \quad \Bigg| \quad -2x^2 + x - 2 \\
 \begin{array}{r}
 x^4 \quad x^3 \quad x^2 \\
 \hline
 \qquad \qquad x^2 \quad x \quad \boxed{} \\
 \qquad \qquad x^2 \quad x \\
 \hline
 \qquad \qquad \qquad x
 \end{array}
 \end{array}$$



3. Egin zatiketak Ruffini erabiliz :

a) $(x^3 + 2x + 70) : (x + 4)$



ZATIDURA: x^2 x

HONDARRA:

b) $(x^5 - 32) : (x - 2)$



ZATIDURA: x^4 x^3 x^2 x

HONDARRA:

c) $(x^4 - 3x^2 + 2) : (x - 3)$



ZATIDURA: x^3 x^2 x

HONDARRA:



4. Egin zatiketa hauek:

a) $(x^3 - 5x - 1) : (x - 3)$

ZATIDURA:	x^2 x
HONDARRA:	

b) $(x^6 - 1) : (x + 1)$

ZATIDURA:	x^5 x^4 x^3 x^2 x
HONDARRA:	

c) $(x^4 - 2x^3 + x^2 + x - 1) : (x - 2)$

ZATIDURA:	x^3 x^2 x
HONDARRA:	

d) $(x^{10} - 1024) : (x + 2)$

ZATIDURA:	x^9 x^8 x^7 x^6 x^5 x^4 x^3 x^2 x
HONDARRA:	