

Εφαρμογές σχήματος Horner

Πέμπτη, 24 Φεβρουαρίου 2022 3:39 μμ

① 6ελ. 139

ⓐ $(3x^3 + 6x^2 - 17x + 20) : (x + 3)$

$$\begin{array}{r|l}
 3x^3 + 6x^2 - 17x + 20 & x+3 \\
 \hline
 (-) -3x^3 - 9x^2 & \\
 \hline
 -3x^2 - 17x + 20 & 3x^2 - 3x - 8 \\
 (+) +3x^2 + 9x & \\
 \hline
 -8x + 20 & \\
 (+) 8x + 24 & \\
 \hline
 44 & \\
 \hline
 & 3x^3 + 6x^2 - 17x + 20
 \end{array}$$

3	6	-17	20	-3
3	-9	9	24	
3	-3	-8	44	

$n(x) = 3x^2 - 3x - 8$ $U(x) = 44$

$3x^3 + 6x^2 - 17x + 20 = (x+3) \cdot (3x^2 - 3x - 8) + (44)$

$(x+3)(3x^2 - 3x - 8) + 44 = 3x^3 + 6x^2 - 17x + 20$

ⓑ

$(x^4 - 81) : (x - 3)$

$x^4 + 0x^3 + 0x^2 + 0x - 81$

1	0	0	0	-81	3
1	3	9	27	81	
1	3	9	27	0	

$n(x) = x^3 + 3x^2 + 9x + 27$ $U(x) = 0$

$x^4 - 81 = (x-3) \cdot (x^3 + 3x^2 + 9x + 27)$

④

ⓐ $(-x^3 + 75x - 250) : (x + 10)$

$-x^3 + 0x^2 + 75x - 250$

-1	0	75	-250	-10
-1	10	-100	250	
-1	10	-25	0	

$n(x) = -x^2 + 10x - 25$ $U(x) = 0$

Αρα:

$-x^3 + 75x - 250 = (x+10) \cdot (-x^2 + 10x - 25)$