

MATHS  
COURS  
CHAP 19

Exo 1:

a)  $A = 2X^4 - 3X^3 + 4X^2 - 5X + 6$

$B = X^2 - 3X + 1$

On a:

$  \begin{array}{r}  2X^4 - 3X^3 + 4X^2 - 5X + 6 \\  - [2X^4 - 6X^3 + 2X^2] \\  \hline  3X^3 + 2X^2 - 5X + 6 \\  - [3X^3 - 9X^2 + 3X] \\  \hline  11X^2 - 8X + 6 \\  - [11X^2 - 33X + 11] \\  \hline  25X - 5  \end{array}  $	$  \begin{array}{r}  X^2 - 3X + 1 \\  \hline  2X^2 + 3X \\  + 11  \end{array}  $
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POLYNOMES  
17/03/26  
TD 13

Enroulements :

$Q = 2X^2 + 3X + 11; R = 25X - 5$  ✓

b)  $A = X^3 - iX^2 - X$

$B = X - 1 + i$

$  \begin{array}{r}  X^3 - iX^2 - X \\  - [X^3 - X^2 + iX^2] \\  \hline  \rightarrow = X^2(i-1)  \end{array}  $	$  \begin{array}{r}  X - 1 + i \\  \hline  X^2 + (1-2i)X  \end{array}  $
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DONC :

$$\begin{array}{l}
 \rightarrow -iX^2 - X \\
 - X^2(i-1) \\
 \rightarrow X^2(1-2i) - X \\
 - [(1-2i)X^2 \\
 - (1-2i)X \\
 + X(i+2)] \\
 \rightarrow -X + (1-2i)X \\
 - X(i+2)
 \end{array}$$

~~plus simple~~

DOUROGUY  
BENNY  
DESFONTAINES  
MATHEO  
MPS I

$$\hookrightarrow X(1-2i-1-i-2)$$

$$\hookrightarrow \cancel{X(-2-3i)}$$

$$-\left[\cancel{X(-2-3i)}\right. \\ \left.(2+3i)\right. \\ \left.+(-2i+3)\right]$$

$$\hookrightarrow -2-3i+2i-3$$

$$\hookrightarrow -i-5 \quad /$$

$$X-1+i$$

$$X^2 + (1-2i)X \\ + (-2-3i)$$

Finalemment :

$$Q = X^2 + (1-2i)X + (-2-3i);$$

$$R = -i-5$$

$$c) A = 2X^5 - 5X^3 - 8X$$

$$B = X+3$$

$$\text{On a : } \cancel{2X^5} - 5X^3 - 8X$$

$$-\left[\cancel{2X^5} + 6X^4\right]$$

$$-\cancel{6X^4} - 5X^3 - 8X$$

$$-\left[-\cancel{6X^4} - 18X^3\right]$$

$$\cancel{13X^3} - 8X$$

$$-\left[\cancel{13X^3} + 39X^2\right]$$

$$-\cancel{39X^2} - 8X$$

$$-\left[-\cancel{39X^2} - 117X\right]$$

$$\cancel{109X}$$

$$-\left[\cancel{109X} + 327\right]$$

$$-327$$

Finalemment :

$$RQ = 2X^4 - 6X^3 + 13X^2 - 39X + 109$$

$$R = -327$$

$$X+3$$

$$2X^4 - 6X^3 + 13X^2$$

$$-39X + 109$$

