$$(x^3 + 2x^2 - x - 2) : (x - 1) = x^2 + 3x + 2 = (x+1)(x+2)$$

$-(x^3 - x^2)$

$\overline{\quad 3x^2}$

$-(3x^2 - 3x)$

$\overline{\quad\quad 2x}$

$-(2x - 2)$

$\overline{\quad\quad\quad zv\ 0.}$

HORNEROVA SCHÉMA

x^3	x^2	x	x^0
1	2	-1	-2
	1	3	2
1	3	2	zv. 0

1

$x^2 + 3x + 2$

$$A \cdot B + C \cdot B = B(A+C)$$

$$x^3 + 2x^2 - x - 2 = x(x^2 - 1) + 2(x^2 - 1) = (x^2 - 1)(x+2) = (x-1)(x+1)(x+2)$$

$$(x^8+11x^6+15x^4+3x^3+12x^2-18x+27):(x^5+9x^3)=x^3+2x$$

$$-(x^8+9x^6)$$

$$\underline{}$$

$$2x^6$$

$$-(2x^6+18x^4)$$

$$\underline{}$$

zvyšok $\longrightarrow$ $-3x^4+3x^3+12x^2-18x+27$

$$\int\left(x^3+2x+\frac{\textbf{zvyšok}}{\textbf{menovateľ}}\right)dx$$

$$\frac{\textbf{zvyšok}}{x^3(x^2+9)}=\frac{Ax^2+Bx+C}{x^3}+\frac{Dx+E}{x^2+9}$$

$$=\frac{(Ax^2+Bx+C)(x^2+9)+x^3(Dx+E)}{x^3(x^2+9)}=\frac{Ax^4+Bx^3+Cx^2+9Ax^2+9Bx+9C+Dx^4+Ex^3}{x^3(x^2+9)}$$

$x^4: \quad -3 = A + D$

$x^3: \quad 3 = B + E$

$x^2: \quad 12 = C + 9A$

$x: \quad -18 = 9B \longrightarrow B = -2$

$x^0: \quad 27 = 9C \longrightarrow C = 3$

$\Rightarrow E = 5$

$\Rightarrow D = -4$

$\Rightarrow A = 1$

$$\int\left(x^3+2x+\frac{x^2-2x+3}{x^3}+\frac{-4x+5}{x^2+9}\right)$$

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