7.2

In $\mathbb{Z}[x]$

① $p(x)+q(x) = 9x^3 - 3x^2 + 37x - 9$

$p(x)q(x) = 14x^6 + 66x^4 - 8x^3 - 21x^5$
$- 99x^3 + 12x^2 + 28x^4 + 132x^2$
$- 16x - 35x^3 - 165x + 20$
$= 14x^6 - 21x^5 + 94x^4 - 142x^3 + 144x^2 - 181x + 20$

In $(\mathbb{Z}/2\mathbb{Z})[x]$:

$p(x)+q(x) = x^3 + x^2 + x + \bar{1}$

$p(x)q(x) = x^5 + x$

In $(\mathbb{Z}/3\mathbb{Z})[x]$:

$p(x)+q(x) = x$

$p(x)q(x) = \bar{2}x^6 + x^4 + \bar{2}x^3 + \bar{2}x + \bar{2}$