



# Multiplying Polynomials - Box Method

Name \_\_\_\_\_

Score \_\_\_\_\_

BM:12

Multiply the polynomials using box method.

1)  $(b - 6)(2b^2 + 4b - 3)$

	$2b^2$	$4b$	$-3$
$b$			
$-6$			

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2)  $(m^3 + n^3)(m^3 + n^3 + 5)$

	$m^3$	$n^3$	$5$
$m^3$			
$n^3$			

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3)  $(gh - 4h)(gh - 2g + 5)$

	$gh$	$-2g$	$5$
$gh$			
$-4h$			

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4)  $(v^3 + 3v^2)(3v^2 - 6v - 1)$

	$3v^2$	$-6v$	$-1$
$v^3$			
$3v^2$			

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5)  $(5k - 1)(-k^2 - 2k - 2)$

	$-k^2$	$2k$	$-2$
$5k$			
$-1$			

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6)  $(-6p^2 + 7p)(p^3 + 4p^2 + p)$

	$p^3$	$4p^2$	$p$
$-6p^2$			
$7p$			

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## Answer key

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1)  $(b - 6)(2b^2 + 4b - 3)$

	$2b^2$	$4b$	$-3$
$b$	$2b^3$	$4b^2$	$-3b$
$-6$	$-12b^2$	$-24b$	$18$

$2b^3 - 8b^2 - 27b + 18$

3)  $(gh - 4h)(gh - 2g + 5)$

	$gh$	$-2g$	$5$
$gh$	$g^2h^2$	$-2g^2h$	$5gh$
$-4h$	$-4gh^2$	$8gh$	$-20h$

$g^2h^2 - 2g^2h - 4gh^2 + 13gh - 20h$

5)  $(5k - 1)(-k^2 - 2k - 2)$

	$-k^2$	$2k$	$-2$
$5k$	$-5k^3$	$10k^2$	$-10k$
$-1$	$k^2$	$-2k$	$2$

$-5k^3 + 11k^2 - 12k + 2$

2)  $(m^3 + n^3)(m^3 + n^3 + 5)$

	$m^3$	$n^3$	$5$
$m^3$	$m^6$	$m^3n^3$	$5m^3$
$n^3$	$m^3n^3$	$n^6$	$5n^3$

$m^6 + 2m^3n^3 + n^6 + 5m^3 + 5n^3$

4)  $(v^3 + 3v^2)(3v^2 - 6v - 1)$

	$3v^2$	$-6v$	$-1$
$v^3$	$3v^5$	$-6v^4$	$-v^3$
$3v^2$	$9v^4$	$-18v^3$	$-3v^2$

$3v^5 + 3v^4 - 19v^3 - 3v^2$

6)  $(-6p^2 + 7p)(p^3 + 4p^2 + p)$

	$p^3$	$4p^2$	$p$
$-6p^2$	$-6p^5$	$-24p^4$	$-6p^3$
$7p$	$7p^4$	$28p^3$	$7p^2$

$-6p^5 - 17p^4 + 22p^3 + 7p^2$