Multiplying Polynomials - Box Method

Name _____

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BM:20

Multiply the polynomials using box method.

1) $(p^4 - 3p^3 + 9p^2)(-p^4 + 5p^3 + p^2 - p) =$ _____

	$-p^4$	$5p^3$	p^2	$-p$
p^4				
$-3p^3$				
$9p^2$				

2) $(7g^2 + g - 6)(g^3 + 2g^2 + 6g - 1) =$ _____

	g^3	$2g^2$	$6g$	-1
$7g^2$				
g				
-6				

3) $(u^3 - 3u^2 + u)(2u^5 + u^4 - 4u^3 + u^2) =$ _____

	$2u^5$	u^4	$-4u^3$	u^2
u^3				
$-3u^2$				
u				

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Answer key

Multiply the polynomials using box method.

1) $(p^4 - 3p^3 + 9p^2)(-p^4 + 5p^3 + p^2 - p) =$ $\underline{-p^8 + 8p^7 - 23p^6 + 41p^5 + 12p^4 - 9p^3}$

	$-p^4$	$5p^3$	p^2	$-p$
p^4	$-p^8$	$5p^7$	p^6	$-p^5$
$-3p^3$	$3p^7$	$-15p^6$	$-3p^5$	$3p^4$
$9p^2$	$-9p^6$	$45p^5$	$9p^4$	$-9p^3$

2) $(7g^2 + g - 6)(g^3 + 2g^2 + 6g - 1) =$ $\underline{7g^5 + 15g^4 + 38g^3 - 13g^2 - 37g + 6}$

	g^3	$2g^2$	$6g$	-1
$7g^2$	$7g^5$	$14g^4$	$42g^3$	$-7g^2$
g	g^4	$2g^3$	$6g^2$	$-g$
-6	$-6g^3$	$-12g^2$	$-36g$	6

3) $(u^3 - 3u^2 + u)(2u^5 + u^4 - 4u^3 + u^2) =$ $\underline{2u^8 - 5u^7 - 5u^6 + 12u^5 - 7u^4 + u^3}$

	$2u^5$	u^4	$-4u^3$	u^2
u^3	$2u^8$	u^7	$-4u^6$	u^5
$-3u^2$	$-6u^7$	$-3u^6$	$12u^5$	$-3u^4$
u	$2u^6$	u^5	$-4u^4$	u^3