Name : _____

Dividing Polynomials - Box Method

Sheet 3

Divide the following by box method.

1) $\frac{7a^4 - 5a^3 - 10a^2 - 10a - 12}{a^2 - a - 2} =$

2) $\frac{9d^4 + 6d^3 + 28d^2 + 9d + 20}{3d^2 + d + 4} =$

a^2			
$-a$			
-2			

$3d^2$			
d			

3) $\frac{4q^4 - 12q^3 + 13q^2 - 8}{2q^2 - 5q + 3} =$

$\frac{15u - 18}{)} =$

$2q^2$			
$-5q$			
3			

5) $\frac{5n^4 + 17n^3 - 53n^2 - 3}{5n^2 - 3n - 6} =$

$\frac{18r - 30}{)} =$

$5n^2$			
$-3n$			
-6			

r^2			
$4r$			
-10			

Name : _____

Answer key

Dividing Polynomials - Box Method

Sheet 3

Divide the following by box method.

1) $\frac{7a^4 - 5a^3 - 10a^2 - 10a - 12}{a^2 - a - 2} = 7a^2 + 2a + 6$

	$7a^2$	$2a$	6
a^2	$7a^4$	$2a^3$	$6a^2$
$-a$	$-7a^3$	$-2a^2$	$-6a$
-2	$-14a^2$		

2) $\frac{9d^4 + 6d^3 + 28d^2 + 9d + 20}{3d^2 + d + 4} = 3d^2 + d + 5$

	$3d^2$	d	5
$3d^2$	$9d^4$	$3d^3$	$15d^2$
d	$3d^3$	d^2	$5d$
			$4d$	20

3) $\frac{4q^4 - 12q^3 + 13q^2 - 8}{2q^2 - 5q + 3}$ … $\frac{15u - 18}{)} = u^2 - u + 2$

	$2q^2$		$-u$	2
$2q^2$	$4q^4$		$-u^3$	$2u^2$
$-5q$	$-10q^3$		$-3u^2$	$6u$
3	$6q^2$		$9u$	-18

5) $\frac{5n^4 + 17n^3 - 53n^2 - 3}{5n^2 - 3n - 6}$ … $\frac{18r - 30}{)} = 3r^2 + 3r + 3$

	n^2	$4n$	-7
$5n^2$	$5n^4$	$20n^3$	$-35n^2$
$-3n$	$-3n^3$	$-12n^2$	$21n$
-6	$-6n^2$	$-24n$	42

	$3r^2$	$3r$	3
r^2	$3r^4$	$3r^3$	$3r^2$
$4r$	$12r^3$	$12r^2$	$12r$
-10	$-30r^2$	$-30r$	-30