



Dividing Polynomials - Box Method

Name _____

Score _____

BM:30

Divide the polynomials using box method.

1) $\frac{g^4 + 2g^3 + 8g^2 + 17g + 28}{g^2 + 3g + 4} =$

g^2			
$3g$			
4			

2) $\frac{2d^4 + d^3 - 15d^2 + d + 20}{2d^2 - d - 4} =$

$2d^2$			
$-d$			
-4			

3) $\frac{21z^4 - 21z^3 - 8z^2 - 27z - 45}{7z^2 + 9} =$

$7z^2$			
$0z$			
9			

4) $\frac{24x^4 - 14x^3 - 7x^2 + 11x - 14}{8x^2 + 2x - 7} =$

$8x^2$			
$2x$			
-7			

5) $\frac{20q^4 - 19q^3 - 19q^2 + 4q + 2}{5q^2 - 6q - 2} =$

$5q^2$			
$-6q$			
-2			

6) $\frac{w^4 - 5w^3 - 7w^2 + 40w - 8}{w^2 - 5w + 1} =$

w^2			
$-5w$			
1			



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$$1) \frac{g^4 + 2g^3 + 8g^2 + 17g + 28}{g^2 + 3g + 4} = g^2 - g + 7$$

	g^2	$-g$	7
g^2	g^4	$-g^3$	$7g^2$
$3g$	$3g^3$	$-3g^2$	$21g$
4	$4g^2$	$-4g$	28

$$2) \frac{2d^4 + d^3 - 15d^2 + d + 20}{2d^2 - d - 4} = d^2 + d - 5$$

	d^2	d	-5
$2d^2$	$2d^4$	$2d^3$	$-10d^2$
$-d$	$-d^3$	$-d^2$	$5d$
-4	$-4d^2$	$-4d$	20

$$3) \frac{21z^4 - 21z^3 - 8z^2 - 27z - 45}{7z^2 + 9} = 3z^2 - 3z - 5$$

	$3z^2$	$-3z$	-5
$7z^2$	$21z^4$	$-21z^3$	$-35z^2$
$0z$	$0z^3$	$0z^2$	$0z$
9	$27z^2$	$-27z$	-45

$$4) \frac{24x^4 - 14x^3 - 7x^2 + 11x - 14}{8x^2 + 2x - 7} = 3x^2 - x + 2$$

	$3x^2$	$-x$	2
$8x^2$	$24x^4$	$-8x^3$	$16x^2$
$2x$	$-6x^3$	$-2x^2$	$4x$
-7	$-21x^2$	$7x$	-14

$$5) \frac{20q^4 - 19q^3 - 19q^2 + 4q + 2}{5q^2 - 6q - 2} = 4q^2 + q - 1$$

	$4q^2$	q	-1
$5q^2$	$20q^4$	$5q^3$	$-5q^2$
$-6q$	$-24q^3$	$-6q^2$	$6q$
-2	$-8q^2$	$-2q$	2

$$6) \frac{w^4 - 5w^3 - 7w^2 + 40w - 8}{w^2 - 5w + 1} = w^2 - 8$$

	w^2	$0w$	-8
w^2	w^4	$0w^3$	$-8w^2$
$-5w$	$-5w^3$	$0w^2$	$40w$
1	w^2	$0w$	-8