



Dividing Polynomials - Box Method

Name _____

Score _____

BM:29

Divide the polynomials using box method.

1) $\frac{5y^4 + 25y^3 - 19y^2 - 45y + 18}{5y^2 - 9} =$

$5y^2$			
$0y$			
-9			

2) $\frac{2u^4 - 15u^3 - u^2 - 5u + 3}{u^2 - 8u + 3} =$

u^2			
$-8u$			
3			

3) $\frac{24b^4 - 6b^3 - 16b^2 - 31b - 5}{6b^2 + 6b + 5} =$

$6b^2$			
$6b$			
5			

4) $\frac{42k^4 - 6k^3 + 4k^2 - 7k - 28}{7k^2 - k - 4} =$

$7k^2$			
$-k$			
-4			

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

h^2			
$2h$			
-1			

6) $\frac{3v^4 - 3v^3 - 28v^2 + 59v - 45}{3v^2 - 6v + 5} =$

$3v^2$			
$-6v$			
5			



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Answer key

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Divide the polynomials using box method.

$$1) \frac{5y^4 + 25y^3 - 19y^2 - 45y + 18}{5y^2 - 9} = y^2 + 5y - 2$$

	y^2	$5y$	-2
$5y^2$	$5y^4$	$25y^3$	$-10y^2$
$0y$	$0y^3$	$0y^2$	$0y$
-9	$-9y^2$	$-45y$	18

$$2) \frac{2u^4 - 15u^3 - u^2 - 5u + 3}{u^2 - 8u + 3} = 2u^2 + u + 1$$

	$2u^2$	u	1
u^2	$2u^4$	u^3	u^2
$-8u$	$-16u^3$	$-8u^2$	$-8u$
3	$6u^2$	$3u$	3

$$3) \frac{24b^4 - 6b^3 - 16b^2 - 31b - 5}{6b^2 + 6b + 5} = 4b^2 - 5b - 1$$

	$4b^2$	$-5b$	-1
$6b^2$	$24b^4$	$-30b^3$	$-6b^2$
$6b$	$24b^3$	$-30b^2$	$-6b$
5	$20b^2$	$-25b$	-5

$$4) \frac{42k^4 - 6k^3 + 4k^2 - 7k - 28}{7k^2 - k - 4} = 6k^2 + 7$$

	$6k^2$	$0k$	7
$7k^2$	$42k^4$	$0k^3$	$28k^2$
$-k$	$-6k^3$	$0k^2$	$-7k$
-4	$-24k^2$	$0k$	-28

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

	h^2	$-3h$	1
h^2	h^4	$-3h^3$	h^2
$2h$	$2h^3$	$-6h^2$	$2h$
-1	$-h^2$	$3h$	-1

$$6) \frac{3v^4 - 3v^3 - 28v^2 + 59v - 45}{3v^2 - 6v + 5} = v^2 + v - 9$$

	v^2	v	-9
$3v^2$	$3v^4$	$3v^3$	$-27v^2$
$-6v$	$-6v^3$	$-6v^2$	$54v$
5	$5v^2$	$5v$	-45