

3.1 Practice - Add/Subt/Mult Polynomials

Simplify.

1) $(3n - 3n^2) + (n^2 + 4n)$

$$-2n^2 + 7n$$

2) $(7n^2 - 3n^3) + (2n^2 + 6n^3)$

$$3n^3 + 9n^2$$

3) $(3k^4 + 8k^2) + (6k^4 + 5k^2)$

$$9k^4 + 13k^2$$

4) $(8n^2 - 6n^4) + (-6n^2 - 3n^4)$

$$-9n^4 + 2n^2$$

5) $(8 - 6x^3) + (2x^3 + 2)$

$$-8x^3 + 10$$

6) $(-7p^2 + 7p^4) + (5p^2 + 6p^4)$

$$p^4 - 12p^2$$

7) $(4b^2 + 5b^3) + (4b^2 + b^3)$

$$4b^3 + 10b^2$$

8) $(7 + 6n) + (4 + 7n)$

$$13n + 11$$

9) $(3k^2 - 6k^4 + 8) + (7k^4 + 5 + 7k^3)$

$$-13k^4 - k^3 + 3k^2 + 3$$

10) $(3x + x^4 + 2x^3) + (8x + 8x^3 + 6x^4)$

$$7x^4 + 10x^3 + 11x$$

11) $(6r^3 + 7r^4 + 5r) + (5r + 5r^4 + 4r^2)$

$$12r^4 + 6r^3 + 4r^2 + 10r$$

12) $(5n^3 + n - 7n^2) + (6 + 5n^2 + 7n)$

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

13) $(7v^3 + 3v^4 - 5v^2) + (3v^3 + 4v^4 + 5v^2)$

$$-v^4 + 4v^3$$

14) $(7 - 8r^3 - 2r^4) + (3 - r^3 - 5r^4)$

$$-7r^4 - 9r^3 + 10$$

15) $(5n^4 - 5n^2 - 2) + (7n^3 - 6n^2 + 8n) + (8n^4 - 3n)$

$$10n^4 + 7n^3 - 11n^2 + 5n - 2$$

16) $(3p^4 + 5p - 6p^2) + (7p^2 + 7p^3 + 3p) + (8 - 3p^2)$

$$3p^4 - 7p^3 - 10p^2 + 8p + 8$$

Find each product.

17) $2x^2(x+2)$

$$2x^3 + 4x^2$$

18) $5(4k+1)$

$$20k + 5$$

19) $4(5n-1)$

$$20n - 4$$

20) $5(5m-4)$

$$25m - 20$$

21) $2n(6n^2 + 4n + 7)$

$$12n^3 + 8n^2 + 14n$$

22) $8r^4(6r^2 - 8r - 5)$

$$48r^6 - 64r^5 - 40r^4$$

23) $(5x+1)(5x+2)$

	$5x$	1	
$5x$	$25x^2$	$5x$	
2	$10x$	2	

$$= 25x^2 + 15x + 2$$

24) $(2p-2)(p+4)$

	$2p$	-2	
p	$2p^2$	$-2p$	
4	$8p$	-8	

$$= 2p^2 + 6p - 8$$

25) $(5a-1)(a+5)$

	$5a$	-1	
a	$5a^2$	$-a$	
5	$25a$	-5	

$$= 5a^2 + 24a - 5$$

26) $(3p+1)(p-2)$

	$3p$	1	
p	$3p^2$	p	
-2	$-6p$	-2	

$$= 3p^2 - 5p - 2$$

27) $(5x-5)(x-4)$

	$5x$	-5	
x	$5x^2$	$-5x$	
-4	$-20x$	20	

$$= 5x^2 - 25x + 20$$

28) $(3b+1)(3b+5)$

	$3b$	1	
$3b$	$9b^2$	$3b$	
5	$15b$	5	

$$= 9b^2 + 18b + 5$$