EduSahara™ Assignment

Name : Expansion

Chapter : Polynomials and Factorisation

Grade : SSC Grade IX

License : Non Commercial Use

1. The expanded form of $(x-3)(3x+4)$ is

   (i) $(5x^2-5x-12)$ (ii) $(3x^2-5x-12)$ (iii) $(x^2-5x-12)$ (iv) $(2x^2-5x-12)$ (v) $(4x^2-5x-12)$

2. The expanded form of $(x+2)(x-1)(x-3)$ is

   (i) $(-2x^2-5x+6)$ (ii) $(3x^3-2x^2-5x+6)$ (iii) (x^3-2x^2-5x+6) (iv) $(-x^3-2x^2-5x+6)$

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

3. The expanded form of $(x+1)(x+1)(x+7)(x+6)$ is

   (i) $(x^4+15x^3+69x^2+97x+42)$ (ii) $(15x^3+69x^2+97x+42)$ (iii) $(2x^4+15x^3+69x^2+97x+42)$

   (iv) $(4x^4+15x^3+69x^2+97x+42)$ (v) $(-x^4+15x^3+69x^2+97x+42)$

4. The expanded form of $(\frac{1}{2}t+\frac{1}{2})^3$ is

   (i) $(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})$ (ii) $(\frac{1}{2}t+\frac{1}{2})$ (iii) $(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})$

   (iv) $(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})$ (v) $(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})\times(\frac{1}{2}t+\frac{1}{2})$

5. The value of $(9xy-2)\times(-4xy+7y)$ is

   (i) $(-35x^2y^2+63xy^2+8xy-14y)$ (ii) $(-36x^2y^2+65xy^2+8xy-14y)$ (iii) $(-37x^2y^2+63xy^2+8xy-14y)$

   (iv) $(-36x^2y^2+63xy^2+8xy-14y)$ (v) $(-36x^2y^2+60xy^2+8xy-14y)$

6. The value of $(7h^2-hi)\times(2hi-2i^2)$ is

   (i) $(14h^3i-16h^2i^2+2hi^3)$ (ii) $(13h^3i-16h^2i^2+2hi^3)$ (iii) $(14h^3i-19h^2i^2+2hi^3)$

   (iv) $(15h^3i-16h^2i^2+2hi^3)$ (v) $(14h^3i-14h^2i^2+2hi^3)$

7. The expanded form of $(b)^3$ is

   (i) $b\times b$ (ii) $b\times b\times b$ (iii) $b\times b\times b\times b\times b$ (iv) $b\times b\times b\times b$ (v) b

8. The expanded form of $(\frac{1}{3}g)^3$ is

   (i) $\frac{1}{3}g\times\frac{1}{3}g$ (ii) $\frac{1}{3}g$ (iii) $\frac{1}{3}g\times\frac{1}{3}g\times\frac{1}{3}g\times\frac{1}{3}g\times\frac{1}{3}g$ (iv) $\frac{1}{3}g\times\frac{1}{3}g\times\frac{1}{3}g$ (v) $\frac{1}{3}g\times\frac{1}{3}g\times\frac{1}{3}g\times\frac{1}{3}g$

9. The expanded form of $(-hi)^3$ is

(i) $(-hi)\times(-hi)\times(-hi)$ (ii) $(-hi)\times(-hi)\times(-hi)\times(-hi)$ (iii) $(-hi)\times(-hi)\times(-hi)\times(-hi)\times(-hi)$

(iv) $(-hi)\times(-hi)$ (v) $(-hi)$

10. The expanded form of $(\frac{1}{3}lm)^3$ is

(i) $\frac{1}{3}lm\times\frac{1}{3}lm\times\frac{1}{3}lm\times\frac{1}{3}lm$ (ii) $\frac{1}{3}lm\times\frac{1}{3}lm\times\frac{1}{3}lm\times\frac{1}{3}lm\times\frac{1}{3}lm$ (iii) $\frac{1}{3}lm\times\frac{1}{3}lm\times\frac{1}{3}lm$ (iv) $\frac{1}{3}lm$

(v) $\frac{1}{3}lm\times\frac{1}{3}lm$

11. The expanded form of $(5gh-5h)^3$ is

(i) $(5gh-5h)\times(5gh-5h)\times(5gh-5h)\times(5gh-5h)\times(5gh-5h)$ (ii) $(5gh-5h)\times(5gh-5h)\times(5gh-5h)$

(iii) $(5gh-5h)\times(5gh-5h)$ (iv) $(5gh-5h)$ (v) $(5gh-5h)\times(5gh-5h)\times(5gh-5h)\times(5gh-5h)$

12. $(a+b)^2$

(i) $(2ab+b^2)$ (ii) $(2a^2+2ab+b^2)$ (iii) (a^2+b^2) (iv) $(a^2+2ab+b^2)$ (v) $(a^2+4ab+b^2)$

13. $(a-b)^2$

(i) $(a^2-2ab+b^2)$ (ii) $(2a^2-2ab+b^2)$ (iii) $(-2ab+b^2)$ (iv) (a^2+b^2) (v) $(a^2-5ab+b^2)$

14. $(a+b)(a-b)$

(i) (a^2-b^2) (ii) (a^2+b^2) (iii) (a^2-4b^2) (iv) $(-b^2)$ (v) $(2a^2-b^2)$

15. $(a+b)^3$

(i) $(a^3+3ab^2+b^3)$ (ii) $(2a^3+3a^2b+3ab^2+b^3)$ (iii) $(3a^2b+3ab^2+b^3)$ (iv) $(a^3+5a^2b+3ab^2+b^3)$

(v) $(a^3+3a^2b+3ab^2+b^3)$

16. $(a-b)^3$

(i) $(a^3-a^2b+3ab^2-b^3)$ (ii) $(2a^3-3a^2b+3ab^2-b^3)$ (iii) $(a^3-3a^2b+3ab^2-b^3)$

(iv) $(a^3-6a^2b+3ab^2-b^3)$ (v) $(-3a^2b+3ab^2-b^3)$

17. $(a+b+c)^2$

(i) $(a^2+4ab+2ac+b^2+2bc+c^2)$ (ii) $(a^2-ab+2ac+b^2+2bc+c^2)$ (iii) $(a^2+2ab+2ac+b^2+2bc+c^2)$

(iv) $(2ab+2ac+b^2+2bc+c^2)$ (v) $(2a^2+2ab+2ac+b^2+2bc+c^2)$

18. $(a+b)(a^2-ab+b^2)$

(i) b^3 (ii) (a^3+b^3) (iii) $(2a^3+b^3)$ (iv) (a^3-2b^3) (v) (a^3+4b^3)

19. $(a-b)(a^2+ab+b^2)$

(i) $(-b^3)$ (ii) $(2a^3-b^3)$ (iii) (a^3-3b^3) (iv) (a^3-b^3) (v) (a^3+b^3)

20. $(a+b+c)(a^2-ab-ac+b^2-bc+c^2)$

(i) $(2a^3-3abc+b^3+c^3)$ (ii) $(a^3-3abc+b^3+c^3)$ (iii) $(-3abc+b^3+c^3)$ (iv) $(a^3-abc+b^3+c^3)$

(v) $(a^3-6abc+b^3+c^3)$

21. $(-a+3b)^2$

(i) $(a^2-4ab+9b^2)$ (ii) $(-6ab+9b^2)$ (iii) $(a^2-6ab+9b^2)$ (iv) $(a^2-9ab+9b^2)$ (v) $(2a^2-6ab+9b^2)$

22. $(-3a-3b)^2$

(i) $(10a^2+18ab+9b^2)$ (ii) $(8a^2+18ab+9b^2)$ (iii) $(9a^2+15ab+9b^2)$ (iv) $(9a^2+18ab+9b^2)$

(v) $(9a^2+21ab+9b^2)$

23. $(-4a-b)(-4a+b)$

(i) $(17a^2-b^2)$ (ii) $(16a^2-4b^2)$ (iii) $(15a^2-b^2)$ (iv) $(16a^2+2b^2)$ (v) $(16a^2-b^2)$

24. $(2a+4b)^3$

(i) $(8a^3+48a^2b+96ab^2+64b^3)$ (ii) $(9a^3+48a^2b+96ab^2+64b^3)$ (iii) $(8a^3+51a^2b+96ab^2+64b^3)$

(iv) $(7a^3+48a^2b+96ab^2+64b^3)$ (v) $(8a^3+46a^2b+96ab^2+64b^3)$

25. $(4a+b)^3$

(i) $(64a^3+48a^2b+12ab^2+b^3)$ (ii) $(63a^3+48a^2b+12ab^2+b^3)$ (iii) $(65a^3+48a^2b+12ab^2+b^3)$

(iv) $(64a^3+46a^2b+12ab^2+b^3)$ (v) $(64a^3+50a^2b+12ab^2+b^3)$

26. $(-4a+3b-2c)^2$

(i) $(16a^2-24ab+16ac+9b^2-12bc+4c^2)$ (ii) $(16a^2-22ab+16ac+9b^2-12bc+4c^2)$

(iii) $(17a^2-24ab+16ac+9b^2-12bc+4c^2)$ (iv) $(15a^2-24ab+16ac+9b^2-12bc+4c^2)$

(v) $(16a^2-26ab+16ac+9b^2-12bc+4c^2)$

27. $(-5a-3b)(25a^2-15ab+9b^2)$

(i) $(-125a^3-24b^3)$ (ii) $(-126a^3-27b^3)$ (iii) $(-124a^3-27b^3)$ (iv) $(-125a^3-30b^3)$

(v) $(-125a^3-27b^3)$

28. $(4a-4b)(16a^2+16ab+16b^2)$

(i) $(64a^3-64b^3)$ (ii) $(64a^3-66b^3)$ (iii) $(64a^3-61b^3)$ (iv) $(65a^3-64b^3)$ (v) $(63a^3-64b^3)$

29. $(5a+5b-3c)(25a^2-25ab+15ac+25b^2+15bc+9c^2)$

(i) $(124a^3+225abc+125b^3-27c^3)$ (ii) $(125a^3+228abc+125b^3-27c^3)$

(iii) $(125a^3+225abc+125b^3-27c^3)$ (iv) $(125a^3+222abc+125b^3-27c^3)$

(v) $(126a^3+225abc+125b^3-27c^3)$

30. Expand $\left(x+\frac{1}{x}\right)^2$

(i) $x^2+1+\frac{1}{x^2}$ (ii) $x^2+2+\frac{1}{x^2}$ (iii) $x^2+4+\frac{1}{x^2}$ (iv) $x^2+2+\frac{1}{x}$ (v) $-x^2+2+\frac{1}{x^2}$

31. Expand $\left(x-\frac{1}{x}\right)^2$

(i) $3x^2-2+\frac{1}{x^2}$ (ii) $x^2-2+\frac{1}{x^2}$ (iii) $x^3-2+\frac{1}{x^2}$ (iv) $x^2-2+\frac{1}{x^3}$ (v) $x^2-2-\frac{2}{x^2}$

32. Expand $\left(x-\frac{1}{x}\right)\left(x+\frac{1}{x}\right)\left(x^2+\frac{1}{x^2}\right)$

(i) $-x-\frac{2}{x^3}-\frac{1}{x^7}$ (ii) $x^4-\frac{1}{x^4}$ (iii) $3x^5+6x+3x^3+\frac{6}{x}+\frac{3}{x^3}+\frac{3}{x^5}$ (iv) $x^5+x^3+x+\frac{1}{x}$

33. Expand $(x-1)(x+1)(x^2+1)$

(i) x^4-1 (ii) $3x^5+7x^3+3x^4+7x^2+4x+4$ (iii) $x^5+x^4+x^3+x^2$ (iv) $-2x^3-2x$

Assignment Key

1) (ii)	2) (iii)	3) (i)	4) (iv)	5) (iv)	6) (i)
7) (ii)	8) (iv)	9) (i)	10) (iii)	11) (ii)	12) (iv)
13) (i)	14) (i)	15) (v)	16) (iii)	17) (iii)	18) (ii)
19) (iv)	20) (ii)	21) (iii)	22) (iv)	23) (v)	24) (i)
25) (i)	26) (i)	27) (v)	28) (i)	29) (iii)	30) (ii)
31) (ii)	32) (ii)	33) (i)			

Copyright © Small Systems Computing Pvt. Ltd.