EduSahara™ Assignment

Name : Expansion

Chapter : Polynomials and Factorisation

Grade : SSC Grade IX

1. The expanded form of $(3x-4)(3x-7)$ is

   (i) $(9x^2-33x+28)$ (ii) $(6x^2-33x+28)$ (iii) $(12x^2-33x+28)$ (iv) $(8x^2-33x+28)$ (v) $(10x^2-33x+28)$

2. The expanded form of $(x+5)(x+8)(2x-4)$ is

   (i) $(22x^2+28x-160)$ (ii) $(2x^3+22x^2+28x-160)$ (iii) $(5x^3+22x^2+28x-160)$

   (iv) $(3x^3+22x^2+28x-160)$ (v) $(x^3+22x^2+28x-160)$

3. The expanded form of $(x+6)(x+9)(x-7)(x+9)$ is

   (i) $(17x^3+21x^2-837x-3402)$ (ii) $(x^4+17x^3+21x^2-837x-3402)$ (iii) $(2x^4+17x^3+21x^2-837x-3402)$

   (iv) $(-2x^4+17x^3+21x^2-837x-3402)$ (v) $(3x^4+17x^3+21x^2-837x-3402)$

4. The expanded form of $(\frac{1}{2}no+\frac{1}{3}o)^3$ is

   (i) $(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)$ (ii) $(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)$ (iii) $(\frac{1}{2}no+\frac{1}{3}o)$

   (iv) $(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)$ (v) $(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)\times(\frac{1}{2}no+\frac{1}{3}o)$

5. The value of $(-3ij-16)\times(-6ij+5j)$ is

   (i) $(18i^2j^2-15ij^2+96ij-80j)$ (ii) $(18i^2j^2-17ij^2+96ij-80j)$ (iii) $(17i^2j^2-15ij^2+96ij-80j)$

   (iv) $(19i^2j^2-15ij^2+96ij-80j)$ (v) $(18i^2j^2-12ij^2+96ij-80j)$

6. The value of $(5a^2b+7b)\times(-9b^2-13b)$ is

   (i) $(-46a^2b^3-65a^2b^2-63b^3-91b^2)$ (ii) $(-45a^2b^3-63a^2b^2-63b^3-91b^2)$

   (iii) $(-45a^2b^3-67a^2b^2-63b^3-91b^2)$ (iv) $(-44a^2b^3-65a^2b^2-63b^3-91b^2)$

   (v) $(-45a^2b^3-65a^2b^2-63b^3-91b^2)$

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

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

8. The expanded form of $(\frac{2}{3}q)^3$ is

   (i) $\frac{2}{3}q\times\frac{2}{3}q\times\frac{2}{3}q\times\frac{2}{3}q$ (ii) $\frac{2}{3}q\times\frac{2}{3}q\times\frac{2}{3}q\times\frac{2}{3}q\times\frac{2}{3}q$ (iii) $\frac{2}{3}q\times\frac{2}{3}q$ (iv) $\frac{2}{3}q\times\frac{2}{3}q\times\frac{2}{3}q$ (v) $\frac{2}{3}q$

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

(i) $3cd \times 3cd$ (ii) $3cd \times 3cd \times 3cd \times 3cd$ (iii) $3cd \times 3cd \times 3cd \times 3cd \times 3cd$ (iv) $3cd$ (v) $3cd \times 3cd \times 3cd$

10. The expanded form of $(\frac{3}{4}ef)^3$ is

(i) $\frac{3}{4}ef \times \frac{3}{4}ef \times \frac{3}{4}ef$ (ii) $\frac{3}{4}ef \times \frac{3}{4}ef$ (iii) $\frac{3}{4}ef$ (iv) $\frac{3}{4}ef \times \frac{3}{4}ef \times \frac{3}{4}ef \times \frac{3}{4}ef \times \frac{3}{4}ef$ (v) $\frac{3}{4}ef \times \frac{3}{4}ef \times \frac{3}{4}ef \times \frac{3}{4}ef$

11. The expanded form of $(-2p+3)^3$ is

(i) $(-2p+3) \times (-2p+3) \times (-2p+3)$ (ii) $(-2p+3)$ (iii) $(-2p+3) \times (-2p+3) \times (-2p+3) \times (-2p+3)$

(iv) $(-2p+3) \times (-2p+3) \times (-2p+3) \times (-2p+3) \times (-2p+3)$ (v) $(-2p+3) \times (-2p+3)$

12. $(a+b)^2$

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

13. $(a-b)^2$

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

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

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

15. $(a+b)^3$

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

(v) $(a^3+5a^2b+3ab^2+b^3)$

16. $(a-b)^3$

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

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

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

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

(iv) $(a^2-ab+2ac+b^2+2bc+c^2)$ (v) $(a^2+5ab+2ac+b^2+2bc+c^2)$

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

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

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

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

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

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

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

21. $(3a-5b)^2$

(i) $(9a^2-33ab+25b^2)$ (ii) $(9a^2-28ab+25b^2)$ (iii) $(9a^2-30ab+25b^2)$ (iv) $(8a^2-30ab+25b^2)$

(v) $(10a^2-30ab+25b^2)$

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

(i) $(9a^2-16ab+9b^2)$ (ii) $(10a^2-18ab+9b^2)$ (iii) $(8a^2-18ab+9b^2)$ (iv) $(9a^2-20ab+9b^2)$

(v) $(9a^2-18ab+9b^2)$

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

(i) $(15a^2-b^2)$ (ii) $(16a^2-3b^2)$ (iii) $(17a^2-b^2)$ (iv) $(16a^2+2b^2)$ (v) $(16a^2-b^2)$

24. $(5a-5b)^3$

(i) $(126a^3-375a^2b+375ab^2-125b^3)$ (ii) $(124a^3-375a^2b+375ab^2-125b^3)$

(iii) $(125a^3-373a^2b+375ab^2-125b^3)$ (iv) $(125a^3-377a^2b+375ab^2-125b^3)$

(v) $(125a^3-375a^2b+375ab^2-125b^3)$

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

(i) $(a^3-6a^2b+12ab^2-8b^3)$ (ii) $(2a^3-6a^2b+12ab^2-8b^3)$ (iii) $(-6a^2b+12ab^2-8b^3)$

(iv) $(a^3-9a^2b+12ab^2-8b^3)$ (v) $(a^3-3a^2b+12ab^2-8b^3)$

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

(i) $(10a^2-6ab+6ac+b^2-2bc+c^2)$ (ii) $(9a^2-8ab+6ac+b^2-2bc+c^2)$

(iii) $(8a^2-6ab+6ac+b^2-2bc+c^2)$ (iv) $(9a^2-6ab+6ac+b^2-2bc+c^2)$

(v) $(9a^2-3ab+6ac+b^2-2bc+c^2)$

27. $(-4a-5b)(16a^2-20ab+25b^2)$

(i) $(-65a^3-125b^3)$ (ii) $(-63a^3-125b^3)$ (iii) $(-64a^3-123b^3)$ (iv) $(-64a^3-125b^3)$

(v) $(-64a^3-127b^3)$

28. $(-5a-2b)(25a^2-10ab+4b^2)$

(i) $(-126a^3-8b^3)$ (ii) $(-124a^3-8b^3)$ (iii) $(-125a^3-6b^3)$ (iv) $(-125a^3-11b^3)$ (v) $(-125a^3-8b^3)$

29. $(-2a+3b-c)(4a^2+6ab-2ac+9b^2+3bc+c^2)$

(i) $(-7a^3-18abc+27b^3-c^3)$ (ii) $(-8a^3-18abc+27b^3-c^3)$ (iii) $(-8a^3-15abc+27b^3-c^3)$

(iv) $(-9a^3-18abc+27b^3-c^3)$ (v) $(-8a^3-21abc+27b^3-c^3)$

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

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

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

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

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

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

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

(i) $3x^5+6x^3+3x^4+6x^2+3x+3$ (ii) $x^5+x^4+x^3+x^2$ (iii) x^4-1 (iv) $-2x^3-2x$

Assignment Key

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