EduSahara™ Assignment

Name : Expansion

Chapter : Polynomials and Factorisation

Grade : SSC Grade IX

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1. The expanded form of $(2x-9)(2x-5)$ is

   (i) $(6x^2-28x+45)$ (ii) $(5x^2-28x+45)$ (iii) $(2x^2-28x+45)$ (iv) $(3x^2-28x+45)$ (v) $(4x^2-28x+45)$

2. The expanded form of $(x+4)(3x+6)(x+4)$ is

   (i) $(2x^3+30x^2+96x+96)$ (ii) $(5x^3+30x^2+96x+96)$ (iii) $(3x^3+30x^2+96x+96)$

   (iv) $(4x^3+30x^2+96x+96)$ (v) $(30x^2+96x+96)$

3. The expanded form of $(x-3)(x-9)(x+1)(x+8)$ is

   (i) $(2x^4-3x^3-73x^2+147x+216)$ (ii) $(-2x^4-3x^3-73x^2+147x+216)$ (iii) $(3x^4-3x^3-73x^2+147x+216)$

   (iv) $(-3x^3-73x^2+147x+216)$ (v) $(x^4-3x^3-73x^2+147x+216)$

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

   (i) $(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)$

   (ii) $(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)$ (iii) $(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)$

   (iv) $(\frac{1}{3}wx+\frac{1}{3}x)$ (v) $(\frac{1}{3}wx+\frac{1}{3}x)\times(\frac{1}{3}wx+\frac{1}{3}x)$

5. The value of $(8gh-2h)\times(9g+2)$ is

   (i) $(71g^2h-2gh-4h)$ (ii) $(72g^2h-4h)$ (iii) $(72g^2h-5gh-4h)$ (iv) $(72g^2h-2gh-4h)$

   (v) $(73g^2h-2gh-4h)$

6. The value of $(-5p^2+5p)\times(p^2q^2-6q^2)$ is

   (i) $(-6p^4q^2+5p^3q^2+30p^2q^2-30pq^2)$ (ii) $(-4p^4q^2+5p^3q^2+30p^2q^2-30pq^2)$

   (iii) $(-5p^4q^2+8p^3q^2+30p^2q^2-30pq^2)$ (iv) $(-5p^4q^2+5p^3q^2+30p^2q^2-30pq^2)$

   (v) $(-5p^4q^2+3p^3q^2+30p^2q^2-30pq^2)$

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

   (i) $(-3l)\times(-3l)$ (ii) $(-3l)$ (iii) $(-3l)\times(-3l)\times(-3l)\times(-3l)\times(-3l)$ (iv) $(-3l)\times(-3l)\times(-3l)$

   (v) $(-3l)\times(-3l)\times(-3l)\times(-3l)$

8. The expanded form of $(\frac{1}{2}w)^3$ is

(i) $\frac{1}{2}w\times\frac{1}{2}w\times\frac{1}{2}w\times\frac{1}{2}w$ (ii) $\frac{1}{2}w$ (iii) $\frac{1}{2}w\times\frac{1}{2}w$ (iv) $\frac{1}{2}w\times\frac{1}{2}w\times\frac{1}{2}w$ (v) $\frac{1}{2}w\times\frac{1}{2}w\times\frac{1}{2}w\times\frac{1}{2}w\times\frac{1}{2}w$

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

(i) $(-3ij)\times(-3ij)\times(-3ij)$ (ii) $(-3ij)\times(-3ij)$ (iii) $(-3ij)\times(-3ij)\times(-3ij)\times(-3ij)\times(-3ij)$

(iv) $(-3ij)\times(-3ij)\times(-3ij)\times(-3ij)$ (v) $(-3ij)$

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

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

(v) $\frac{3}{4}gh\times\frac{3}{4}gh\times\frac{3}{4}gh$

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

(i) $(-3cd+2d)\times(-3cd+2d)\times(-3cd+2d)$

(ii) $(-3cd+2d)\times(-3cd+2d)\times(-3cd+2d)\times(-3cd+2d)\times(-3cd+2d)$

(iii) $(-3cd+2d)\times(-3cd+2d)\times(-3cd+2d)\times(-3cd+2d)$ (iv) $(-3cd+2d)$ (v) $(-3cd+2d)\times(-3cd+2d)$

12. $(a+b)^2$

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

13. $(a-b)^2$

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

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

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

15. $(a+b)^3$

(i) $(2a^3+3a^2b+3ab^2+b^3)$ (ii) $(a^3+6a^2b+3ab^2+b^3)$ (iii) $(a^3+3ab^2+b^3)$ (iv) $(3a^2b+3ab^2+b^3)$

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

16. $(a-b)^3$

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

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

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

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

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

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

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

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

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

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

(i) $(a^3-3abc+b^3+c^3)$ (ii) $(a^3-6abc+b^3+c^3)$ (iii) $(2a^3-3abc+b^3+c^3)$ (iv) $(-3abc+b^3+c^3)$

(v) $(a^3+b^3+c^3)$

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

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

22. $(5a+b)^2$

(i) $(25a^2+7ab+b^2)$ (ii) $(24a^2+10ab+b^2)$ (iii) $(26a^2+10ab+b^2)$ (iv) $(25a^2+10ab+b^2)$

(v) $(25a^2+12ab+b^2)$

23. $(3a+2b)(3a-2b)$

(i) $(10a^2-4b^2)$ (ii) $(9a^2-7b^2)$ (iii) $(9a^2-4b^2)$ (iv) $(9a^2-2b^2)$ (v) $(8a^2-4b^2)$

24. $(4a+5b)^3$

(i) $(65a^3+240a^2b+300ab^2+125b^3)$ (ii) $(63a^3+240a^2b+300ab^2+125b^3)$

(iii) $(64a^3+238a^2b+300ab^2+125b^3)$ (iv) $(64a^3+240a^2b+300ab^2+125b^3)$

(v) $(64a^3+242a^2b+300ab^2+125b^3)$

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

(i) $(63a^3+144a^2b+108ab^2+27b^3)$ (ii) $(64a^3+142a^2b+108ab^2+27b^3)$

(iii) $(64a^3+144a^2b+108ab^2+27b^3)$ (iv) $(64a^3+147a^2b+108ab^2+27b^3)$

(v) $(65a^3+144a^2b+108ab^2+27b^3)$

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

(i) $(-4ab-2ac+4b^2+4bc+c^2)$ (ii) $(a^2-6ab-2ac+4b^2+4bc+c^2)$ (iii) $(a^2-2ab-2ac+4b^2+4bc+c^2)$

(iv) $(a^2-4ab-2ac+4b^2+4bc+c^2)$ (v) $(2a^2-4ab-2ac+4b^2+4bc+c^2)$

27. $(3a-4b)(9a^2+12ab+16b^2)$

(i) $(27a^3-64b^3)$ (ii) $(26a^3-64b^3)$ (iii) $(27a^3-62b^3)$ (iv) $(27a^3-67b^3)$ (v) $(28a^3-64b^3)$

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

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

29. $(-4a+b+4c)(16a^2+4ab+16ac+b^2-4bc+16c^2)$

(i) $(-65a^3+48abc+b^3+64c^3)$ (ii) $(-64a^3+48abc+b^3+64c^3)$ (iii) $(-63a^3+48abc+b^3+64c^3)$

(iv) $(-64a^3+50abc+b^3+64c^3)$ (v) $(-64a^3+45abc+b^3+64c^3)$

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

(i) $x^2+0+\frac{1}{x^2}$ (ii) $x^2+1+\frac{1}{x^2}$ (iii) $x^2+2+\frac{1}{x^2}$ (iv) $x^2+5+\frac{1}{x^2}$ (v) $x^2+2+\frac{1}{x}$

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

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

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

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

Assignment Key

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

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