EduSahara™ Assignment

Name : Expansion

Chapter : Polynomials and Factorisation

Grade : SSC Grade IX

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1. The expanded form of $(3x+2)(3x-8)$ is

   (i) $(9x^2-18x-16)$ (ii) $(10x^2-18x-16)$ (iii) $(8x^2-18x-16)$ (iv) $(11x^2-18x-16)$ (v) $(6x^2-18x-16)$

2. The expanded form of $(x-8)(2x+5)(3x+2)$ is

   (i) $(5x^3-29x^2-142x-80)$ (ii) $(9x^3-29x^2-142x-80)$ (iii) $(6x^3-29x^2-142x-80)$

   (iv) $(4x^3-29x^2-142x-80)$ (v) $(7x^3-29x^2-142x-80)$

3. The expanded form of $(x+1)(x+1)(x-5)(x-6)$ is

   (i) $(-2x^4-9x^3+9x^2+49x+30)$ (ii) $(x^4-9x^3+9x^2+49x+30)$ (iii) $(3x^4-9x^3+9x^2+49x+30)$

   (iv) $(-9x^3+9x^2+49x+30)$ (v) $(2x^4-9x^3+9x^2+49x+30)$

4. The expanded form of $(\frac{4}{5}vw+\frac{4}{5})^3$ is

   (i) $(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})$ (ii) $(\frac{4}{5}vw+\frac{4}{5})$ (iii) $(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})$

   (iv) $(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})$ (v) $(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})\times(\frac{4}{5}vw+\frac{4}{5})$

5. The value of $(4hi+5h)\times(9h-1)$ is

   (i) $(36h^2i+45h^2-4hi-5h)$ (ii) $(36h^2i+47h^2-4hi-5h)$ (iii) $(35h^2i+45h^2-4hi-5h)$

   (iv) $(36h^2i+43h^2-4hi-5h)$ (v) $(37h^2i+45h^2-4hi-5h)$

6. The value of $(3a^2b^2-7)\times(7ab^2+6a)$ is

   (i) $(21a^3b^4+15a^3b^2-49ab^2-42a)$ (ii) $(21a^3b^4+18a^3b^2-49ab^2-42a)$

   (iii) $(21a^3b^4+20a^3b^2-49ab^2-42a)$ (iv) $(22a^3b^4+18a^3b^2-49ab^2-42a)$

   (v) $(20a^3b^4+18a^3b^2-49ab^2-42a)$

7. The expanded form of $(5p)^3$ is

   (i) $5p\times5p\times5p$ (ii) $5p\times5p\times5p\times5p\times5p$ (iii) $5p$ (iv) $5p\times5p$ (v) $5p\times5p\times5p\times5p$

8. The expanded form of $(\frac{3}{5}d)^3$ is

   (i) $\frac{3}{5}d\times\frac{3}{5}d\times\frac{3}{5}d\times\frac{3}{5}d$ (ii) $\frac{3}{5}d\times\frac{3}{5}d\times\frac{3}{5}d\times\frac{3}{5}d\times\frac{3}{5}d$ (iii) $\frac{3}{5}d\times\frac{3}{5}d$ (iv) $\frac{3}{5}d$ (v) $\frac{3}{5}d\times\frac{3}{5}d\times\frac{3}{5}d$

9. The expanded form of $(4rs)^3$ is

(i) $4rs \times 4rs \times 4rs \times 4rs \times 4rs$ (ii) $4rs \times 4rs$ (iii) $4rs$ (iv) $4rs \times 4rs \times 4rs \times 4rs$ (v) $4rs \times 4rs \times 4rs$

10. The expanded form of $(\frac{1}{5}xy)^3$ is

(i) $\frac{1}{5}xy \times \frac{1}{5}xy \times \frac{1}{5}xy \times \frac{1}{5}xy \times \frac{1}{5}xy$ (ii) $\frac{1}{5}xy$ (iii) $\frac{1}{5}xy \times \frac{1}{5}xy \times \frac{1}{5}xy$ (iv) $\frac{1}{5}xy \times \frac{1}{5}xy$ (v) $\frac{1}{5}xy \times \frac{1}{5}xy \times \frac{1}{5}xy \times \frac{1}{5}xy$

11. The expanded form of $(-a+4)^3$ is

(i) $(-a+4) \times (-a+4) \times (-a+4) \times (-a+4) \times (-a+4)$ (ii) $(-a+4)$

(iii) $(-a+4) \times (-a+4) \times (-a+4) \times (-a+4)$ (iv) $(-a+4) \times (-a+4)$ (v) $(-a+4) \times (-a+4) \times (-a+4)$

12. $(a+b)^2$

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

13. $(a-b)^2$

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

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

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

15. $(a+b)^3$

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

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

16. $(a-b)^3$

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

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

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

(i) $(a^2+2ab+2ac+b^2+2bc+c^2)$ (ii) $(a^2+5ab+2ac+b^2+2bc+c^2)$ (iii) $(2ab+2ac+b^2+2bc+c^2)$

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

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

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

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

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

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

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

(v) $(2a^3-3abc+b^3+c^3)$

21. $(-5a-4b)^2$

(i) $(24a^2+40ab+16b^2)$ (ii) $(26a^2+40ab+16b^2)$ (iii) $(25a^2+38ab+16b^2)$ (iv) $(25a^2+40ab+16b^2)$

(v) $(25a^2+42ab+16b^2)$

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

(i) $(a^2-7ab+4b^2)$ (ii) $(-4ab+4b^2)$ (iii) $(2a^2-4ab+4b^2)$ (iv) $(a^2-4ab+4b^2)$ (v) $(a^2-ab+4b^2)$

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

(i) $(9a^2-b^2)$ (ii) $(9a^2-4b^2)$ (iii) $(10a^2-4b^2)$ (iv) $(8a^2-4b^2)$ (v) $(9a^2-6b^2)$

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

(i) $(27a^3+81a^2b+81ab^2+27b^3)$ (ii) $(27a^3+83a^2b+81ab^2+27b^3)$ (iii) $(26a^3+81a^2b+81ab^2+27b^3)$

(iv) $(28a^3+81a^2b+81ab^2+27b^3)$ (v) $(27a^3+78a^2b+81ab^2+27b^3)$

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

(i) $(-28a^3-27a^2b-9ab^2-b^3)$ (ii) $(-27a^3-29a^2b-9ab^2-b^3)$ (iii) $(-27a^3-24a^2b-9ab^2-b^3)$

(iv) $(-26a^3-27a^2b-9ab^2-b^3)$ (v) $(-27a^3-27a^2b-9ab^2-b^3)$

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

(i) $(5a^2-12ab+8ac+9b^2-12bc+4c^2)$ (ii) $(4a^2-12ab+8ac+9b^2-12bc+4c^2)$

(iii) $(3a^2-12ab+8ac+9b^2-12bc+4c^2)$ (iv) $(4a^2-14ab+8ac+9b^2-12bc+4c^2)$

(v) $(4a^2-10ab+8ac+9b^2-12bc+4c^2)$

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

(i) $(-28a^3+b^3)$ (ii) $(-27a^3+b^3)$ (iii) $(-27a^3+4b^3)$ (iv) $(-27a^3-2b^3)$ (v) $(-26a^3+b^3)$

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

(i) $(125a^3-122b^3)$ (ii) $(125a^3-127b^3)$ (iii) $(125a^3-125b^3)$ (iv) $(124a^3-125b^3)$

(v) $(126a^3-125b^3)$

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

(i) $(-125a^3+78abc+125b^3+c^3)$ (ii) $(-126a^3+75abc+125b^3+c^3)$ (iii) $(-125a^3+72abc+125b^3+c^3)$

(iv) $(-125a^3+75abc+125b^3+c^3)$ (v) $(-124a^3+75abc+125b^3+c^3)$

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

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

31. 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) $x-2+\frac{1}{x^2}$ (iv) $-x^2-2+\frac{1}{x^2}$ (v) $x^2-2+\frac{3}{x^2}$

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

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

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

(i) $x^5+x^4+x^3+x^2$ (ii) $-2x^3-2x$ (iii) x^4-1 (iv) $4x^5+8x^3+4x^4+8x^2+4x+4$

Assignment Key

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