EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Polynomials and Factorisation

Grade : SSC Grade IX

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1. Which of the following algebraic expressions is a monomial?

(i) $(-9v^3w^2-8v^3w+3v^2wx^3+2vwx^3)$ (ii) $(-4vwx^3)$ (iii) $(-vw^3x+3w^3x^3-w^3x^2+7w)$

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

2. The value of $500\frac{2}{3}\times 498\frac{1}{2}$ is

(i) $249581\frac{2}{3}$ (ii) $249582\frac{1}{3}$ (iii) 249583 (iv) $249582\frac{1}{5}$

3. Which of the following terms is a like term of $(-4p^2)$?

(i) 4 (ii) $6p^4$ (iii) $(-7p)$ (iv) $(-8p^2)$ (v) $(-7p^3)$

4. $(\frac{3}{2}a-2b)^2$

(i) $(\frac{9}{4}a^2-8ab+4b^2)$ (ii) $(\frac{9}{4}a^2-4ab+4b^2)$ (iii) $(\frac{5}{2}a^2-6ab+4b^2)$ (iv) $(\frac{9}{4}a^2-6ab+4b^2)$

(v) $(\frac{13}{6}a^2-6ab+4b^2)$

5. Factorize $(-64a^3-27b^3)$

(i) $(-4a-5b)(16a^2-15ab+9b^2)$ (ii) $(-4a-3b)(16a^2-12ab+9b^2)$ (iii) $(-5a-3b)(15a^2-12ab+9b^2)$

(iv) $(-3a-3b)(17a^2-12ab+9b^2)$ (v) $(-4a-b)(16a^2-10ab+9b^2)$

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

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

7. Which of the following are not polynomials?

a) $25x^2$

b) $(99x^2+35xy-4y^2)$

c) $x+\frac{1}{x}$

d) $(9x+4y)$

e) $\frac{(9x+4y)}{(11x-y)}$

(i) {d,a,c} (ii) {a,c} (iii) {b,e,c} (iv) {b,e} (v) {c,e}

8. Factorize and divide $(900x^4-1476x^2+576)\div(30x^2-6x-24)$

(i) $(30x^2+6x-24)$ (ii) $(29x^2+6x-24)$ (iii) $(28x^2+6x-24)$ (iv) $(33x^2+6x-24)$ (v) $(31x^2+6x-24)$

9. If the polynomial $f(x)=9x^2+kx+10$ is exactly divisible by $(3x-2)$, find k

(i) -21 (ii) -20 (iii) -22 (iv) -24 (v) -18

10. Which of the following are polynomials?

a) $x^2+\frac{1}{x^2}$

b) $x+\frac{1}{x}$

c) $\frac{(x+y)}{(x-y)}$

d) $(x+y)$

e) x^2

(i) {d,e} (ii) {c,a,d} (iii) {b,e} (iv) {a,d} (v) {b,e,d}

11. Factorize $(7x+6y)^2-2(7x+6y)(8x+2y)+(8x+2y)^2$

(i) $(7x+6y)(8x+2y)$ (ii) $4y^2$ (iii) $(-x+4y)^2$ (iv) $(2x-4y)^2$ (v) $(15x+8y)^2$

12. $(-12x^5+70x^4-88x^3-68x^2+84x-18)$ divided by $(6x^3-23x^2+16x-3)=$

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

13. The coefficient of term a in polynomial $(3a-9)$ is

(i) 1 (ii) 2 (iii) 3 (iv) 4 (v) 6

14. The value of $(7v^2w+2v^2)\times(9v^2+8)$ is

(i) $(63v^4w+16v^4+56v^2w+16v^2)$ (ii) $(62v^4w+18v^4+56v^2w+16v^2)$

(iii) $(63v^4w+20v^4+56v^2w+16v^2)$ (iv) $(63v^4w+18v^4+56v^2w+16v^2)$

(v) $(64v^4w+18v^4+56v^2w+16v^2)$

15. $(32x^3y^4+16x^3y^3)\div 4x^2y^2=$

(i) $(8x^2y^3+4xy)$ (ii) $(8xy^2+4y^2)$ (iii) $(4xy^2z+8xy^2)$ (iv) $(8x^2y^4+4xy)$ (v) $(8xy^2+4xy)$

16. The value of the polynomial $(-8pq^2r-8pq+7q^2r)$ at $p=(-2), q=(-3), r=(-5)$ is

(i) -1083 (ii) -1084 (iii) -1080 (iv) -1086 (v) -1082

17. The constant term in polynomial $(3x^2-2x+7)$ is

(i) 4 (ii) 9 (iii) 6 (iv) 7 (v) 8

18. $(-5a+5b)(-5a-5b)$

(i) $(24a^2-25b^2)$ (ii) $(25a^2-25b^2)$ (iii) $(26a^2-25b^2)$ (iv) $(25a^2-28b^2)$ (v) $(25a^2-23b^2)$

19. $(-5a+3b)^3$

(i) $(-125a^3+228a^2b-135ab^2+27b^3)$ (ii) $(-126a^3+225a^2b-135ab^2+27b^3)$

(iii) $(-125a^3+225a^2b-135ab^2+27b^3)$ (iv) $(-125a^3+222a^2b-135ab^2+27b^3)$

(v) $(-124a^3+225a^2b-135ab^2+27b^3)$

20. $(2a-b)(4a^2+2ab+b^2)$

(i) $(9a^3-b^3)$ (ii) $(7a^3-b^3)$ (iii) $(8a^3-b^3)$ (iv) $(8a^3+2b^3)$ (v) $(8a^3-3b^3)$

21. The value of 109×103 is

(i) 11228 (ii) 11226 (iii) 11229 (iv) 11227 (v) 11224

22. Factorize $(9x^2+42xy+24y^2)$

(i) $(9x-6y)(x-4y)$ (ii) $(9x+6y)(x+4y)$ (iii) $(9x-6y)(x+4y)$ (iv) $(9x+6y)(9x-6y)$

(v) $(9x+6y)(x-4y)$

23. Factorize $(x^4+13x^3-22x^2-832x-2688)$

(i) $(x-8)(2x+6)(2x+8)(2x+7)$ (ii) $(x-8)(4x+6)(4x+8)(3x+7)$ (iii) $(x-8)(x+6)(x+8)(x+7)$

(iv) $(x-8)(-x+6)(-x+8)(-x+7)$ (v) $(x-8)687$

24. The value of the polynomial $(4qrs+3qr+4qs)$ at $q=5, r=(-1), s=(-4)$ is

(i) -15 (ii) -18 (iii) -13 (iv) -14 (v) -16

25. If $f(x)=(6x^3+28x^2+40x+16)$ and $g(x)=(3x^3+24x^2+51x+30)$ have a common factor, find the common factor

(i) $(x+2)$ (ii) $(3x+2)$ (iii) $(3x+3)$ (iv) $(2x+4)$ (v) $(x+5)$

Assignment Key

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

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