

CLASS NOTES

Class: VIII

Topic: Worksheet (Ex,9,5 and Ch.14)

Subject: Mathematics

Q.1 Factorize the following expression

- (a) $x^2 + x y + 8x + 8y$
- (b) $(6xy + 3x) + (2y + 1)$
- (c) $x(y - z)^2 - a(z - y)^3$
- (d) $z - 7 + 7 x y - x y z$
- (e) $z^2 - 10z + 21$
- (f) $z^2 + 6z - 16$
- (g) $54m^3n + 81m^4n^2$
- (h) $15x^2y^3z + 25x^3y^2z + 35x^2y^2z^2$
- (i) $14(3y - 5z)^3 + 7(3y - 5z)^2$
- (j) $(a - b)^2 + 4ab$
- (k) $p^2q - pr^2 - pq + r^2$
- (l) $x^2 + yz + xy + xz$
- (m) $xy(z^2 + 1) + z(x^2 + y^2)$
- (n) $2axy^2 + 10x + 3ay^2 + 15$
- (o) $x^2 + 4x + 8y + 4xy + 4y^2$

Q.2 Use a suitable identity to get each of the following products.

- (a) $[(p/8)+(3q/4)] [(p/8)+(3q/4)]$
- (b) $(- a/2 + c/2) (- a/2 + c/2)$
- (c) $(1.1m - 0.4) (1.1m + 0.4)$
- (d) $(a^2 + b^2) (- a^2 + b^2)$
- (e) $(x - 0.5y)^2$
- (f) $(2a^2 + 9) (2a^2 + 5)$

Q.3 Simplify the following

- (a)
$$\frac{(x-1)(x-2)(x^2-9x+14)}{(x-7)(x^2-3x+2)}$$
- (b)
$$\frac{(x^2-8x+12)(x^2-16)}{(x^2-36)(x^2-4)}$$
- (c) $(x^2 - y^2)^2 + 4x^2y^2$
- (d) $(.5p - 1.5q)^2 - (.5p - 1.5q)^2 + p^2q^2$
- (e) $(4m + 5n)^2 + (5m + 4n)^2 + (4m + 5n) (4m - 5n)$
- (f) $(m^2 - n^2m)^2 + 2m^2n^2$
- (g) $39n^3(50n^2 - 98) \div 26n^2(5n - 7)$
- (h) $44(p^4 - 5p^3 - 24p^2) \div 11p(p - 8)$
- (i) $(11x - 121) \div 11$
- (j) $(15x - 25) \div (3x - 5)$
- (k) $10y(9y + 21) \div 2(3y + 7)$
- (l) $9p^2q^2(3z - 12) \div 27pq(z - 4)$
- (m) $(3b - 6a) \div (30a - 15b)$
- (n) $(4x^2 - 100) \div 6(x + 5)$
- (o) $(4x^2 - 100) \div 6(x + 5)$

Q.4 Using identities, evaluate.

(a) 202^2

(b) 999^2

(c) 1.2^2

(d) 397×403

(e) $10.1^2 - 9.9^2$

(f) 2.1×2.2

(g) $\frac{(0.87)^2 - (0.13)^2}{(0.87 - 0.13)}$

(h) $1.02^2 - 0.98^2$

(i) 98^2

Q.5 Choose the correct answer:-

1. The common factor of $8a^2b^4c^2$, $12a^4bc^4$ and $20a^3b^4$ is

(a) a^4b^4

(b) a^2b^2

(c) $4a^2b^2$

(d) $4a^2b$.

2. The factorisation of $ax^2y + bxy^2 + cxyz$ is

(a) $xy(ax + by + cz)$

(b) $axy(ax + by + cz)$

(c) $bxy(ax + by + cz)$

(d) $cxy(ax + by + cz)$.

3. The factorisation of

$$a(x + y + z) + b(x + y + z) + c(x + y + z)$$
 is

(a) $(a + b + c)(x + y + z)$

(b) $(ab + bc + ca)(x + y + z)$

(c) $(xy + yz + zx)(a + b + c)$

(d) none of these.

4. The factorisation of $ax + bx - ay - by$ is

(a) $(x - y)(a + b)$

(b) $(x + y)(a + b)$

(c) $(x - y)(a - b)$

(d) $(x + y)(a - b)$.

5. The factorisation of $x^2y^2 + xy + xy^2z + yz + x^2yz + xz$ is

(a) $(xy + yz + zx)(xy + 1)$

(b) $(xy + yz + zx)(yz + 1)$

(c) $(xy + yz + zx)(zx + 1)$

(d) none of these.

6. The factorisation of $(l + m)^2 - 4lm$ is

(a) $(l - m)^2$

(b) $(l + m - 2)^2$

(c) $(l + m + 2)^2$

(d) none of these.

7. The value of

$$0.645 \times 0.645 + 2 \times 0.645 \times 0.355 + 0.355 \times 0.355$$
 is

(a) 1

(b) 0

(c) -1

(d) 2.

8. The factorisation $x^2 + x + 1/4$ is

(a) $(x/2 - 1)^2$

(b) $(x/2 + 1)^2$

(c) $(x + 1/2)^2$

(d) $(x - 1/2)^2$

