

**Q1. Factorise and choose for which of the following polynomials  $(x - 1)$  is not a factor:**

- a.  $2x^2 - 2$
- b.  $2x^2 - 4$
- c.  $4x^2 - 4$
- d.  $2x^2 - 4x + 2$

Answer: \_\_\_\_\_

**Q2. Factorise the first polynomial in each of the rows given below. Determine whether the second polynomial is a factor of the first polynomial or not. Write the answer as Yes/No.**

First Polynomial	Second Polynomial	Factorisation of the first Polynomial	Is the second polynomial a factor of the first polynomial? (Yes/No)
$21x^2 - 18xy + 15y$	$3xy$	_____	_____
$8x^3 + 6x^2y$	$4x + 3$	_____	_____
$18a^4 b^2 - 27a^2 b$	$3a^2b$	_____	_____

**Q3. Factorise the following polynomials:**

a.  $\frac{3x^2}{2}(2y + z) + \frac{5x^2}{2}(2y + z)$

Factorisation of  $\frac{3x^2}{2}(2y + z) + \frac{5x^2}{2}(2y + z)$  : \_\_\_\_\_

b.  $9(4a^2 - 36b^2)$

Factorisation of  $9(4a^2 - 36b^2)$  : \_\_\_\_\_

**Q4. Factorise the following by grouping the terms:**

a.  $a - b^2 - b(1 - a) =$  \_\_\_\_\_

b.  $3(x - 3y)^2 - 6x + 18y =$  \_\_\_\_\_

**Q5. Find the factors of the following:**

a.  $0.81(3m - n)^2 - 16 =$  \_\_\_\_\_

b.  $16(a + b)^2 - 9(2a + b)^2 =$  \_\_\_\_\_

**Q6. Factorise the following polynomials:**

a.  $6x^2 - 5xy - 4y^2 =$  \_\_\_\_\_

b.  $9a^2 + 47ab + 10b^2 =$  \_\_\_\_\_

**Q7. Find the factors of the following polynomial and choose the correct option:**

$1.44x^2 - 1.69y^2$

a.  $(1.2x + 1.3y)(1.2x - 1.3y)$

b.  $(0.12x + 0.13y)(0.12x - 0.13y)$

c.  $(0.12x - 0.13y)^2$

d.  $(1.2x - 1.3y)^2$

Answer: \_\_\_\_\_

**Q8. Factorise  $(p + q)^2 - 12(p + q) + 35$ , and write its factors.**

Answer: \_\_\_\_\_

**Q9. Use the algebraic identities and factorise the following:**

a.  $\frac{4x^2}{9} - x^2 + \frac{9x^2}{16}$

Answer: \_\_\_\_\_

b.  $a^2b^2 + 2b + \frac{1}{a^2}$

Answer: \_\_\_\_\_

**Q10. Find the factors of the following polynomials:**

a.  $2(5a - 3b)^2 + 11(5a - 3b) + 9$

Answer: \_\_\_\_\_

b.  $3\left(x + \frac{1}{3}\right)^2 + 16\left(x + \frac{1}{3}\right) + 5$

Answer: \_\_\_\_\_

## Answers

1. (b)

2.

First Polynomial	Second Polynomial	Factorisation of the first Polynomial	Is the second polynomial a factor of the first polynomial? (Yes/No)
$21x^2 - 18xy + 15y$	$3xy$	$3(7x^2 - 6xy + 5y)$	No
$8x^3 + 6x^2y$	$4x + 3$	$2x^2(4x + 3y)$	No
$18a^4 b^2 - 27a^2 b$	$3a^2 b$	$9a^2 b(2a^2 b - 3)$	Yes

3. a.  $4x^2(2y + z)$ ;      b.  $36(a + 3b)(a - 3b)$

4. a.  $(a - b)(b + 1)$ ;      b.  $3(x - 3y)(x - 3y - 2)$

5. a.  $(2.7m - 0.9n + 4)(2.7m - 0.9n - 4)$ ;      b.  $(10a + 7b)(-2a + b)$

6. a.  $(2x + y)(3x - 4y)$ ;      b.  $(9a + 2b)(a + 5b)$

7. (a)

8.  $(p + q - 5), (p + q - 7)$

9. a.  $\frac{2 + \sqrt{3}}{2 - \sqrt{3}} + \frac{2 - \sqrt{3}}{2 + \sqrt{3}}$ ;      b.  $\left(ab + \frac{1}{a}\right)^2$

10. a.  $(10a - 6b + 9)(5a - 3b + 1)$ ;      b.  $\frac{1}{3}(3x + 2)(3x + 16)$