

Factorisation

Question 1.

Factorise: $4y^2 - 12y + 9$

- (a) $(7y - 5)^2$
- (b) $(5y - 3)^2$
- (c) $(2y - 5)^2$
- (d) $(2y - 3)^2$

Answer: (d) $(2y - 3)^2$

Question 2.

Factorise $6xy - 4y + 6 - 9x$.

- (a) $(3x - 2)(2y - 3)$
- (b) $(3x - 2)$
- (c) $(2y - 3)$
- (d) $(2x - 3)(3y - 2)$

Answer: (a) $(3x - 2)(2y - 3)$

Question 3.

Which of the following is quotient obtained on dividing $-18xyz^2$ by $-3xz$?

- (a) $6yz$
- (b) $-6yz$
- (c) $6xy^2$
- (d) $6xy$

Answer: (a) $6yz$

Question 4.

Factorize $x^2 + 8x + 12$

- (a) $(x + 2)(x + 6)$

- (b) $(x + 3)(x + 4)$
- (c) $3x + 12$
- (d) $3x - 12$

Answer: (a) $(x + 2)(x + 6)$

Question 5.

Factorise: $x^2 + xy + 8x + 8y$

- (a) $(x + 8)(x + y)$
- (b) $(x + y)$
- (c) $(x + 8)$
- (d) $(x + 9)(x - y)$

Answer: (a) $(x + 8)(x + y)$

Question 6.

Find and correct the errors in the following mathematical statements. $x(3x + 2) = 3x^2 + 2$

- (a) $x(3x + 2) = 3x^2 + 2x$
- (b) $x(3x + 2) = 3x^2$
- (c) $x(3x + 2) = 5x^2 + 2x$
- (d) none of these

Answer: (a) $x(3x + 2) = 3x^2 + 2x$

Question 7.

Find the common factors of $2y$, $22xy$.

- (a) $2y$
- (b) 2
- (c) 22
- (d) y

Answer: (a) $2y$

Question 8.

Divide as directed: $5(2x + 1)(3x + 5) \div (2x + 1)$

- (a) $5(3x + 5)$
- (b) $(3x + 5)$
- (c) 5
- (d) none of these

Answer: (a) $5(3x + 5)$

Question 9.

The common factor of a^2m^4 and a^4m^2 is

- (a) a^4m^4
- (b) a^2m^2
- (c) a^2m^4
- (d) a^4m^2

Answer: (b) a^2m^2

Question 10.

Amrit and Pankaj expanded $(x-5)^2$. Amrit's answer is x^2-25 and Pankaj's answer is $x^2-10x+25$. Which of the following statements is correct?

- (a) Amrit's answer is correct.
- (b) Pankaj's answer is wrong.
- (c) Both got correct answer.
- (d) Pankaj's answer is correct.

Answer: (d) Pankaj's answer is correct.

Question 11.

When we factorise an expression, we write it as a _____ of factors.

- (a) product
- (b) difference
- (c) sum
- (d) none of these

Answer: (a) product

Question 12.

Divide the given polynomial by the given monomial: $(5x^2 - 6x) \div 3x$

- (a) $(5x - 6)$
- (b) $\frac{1}{3}$
- (c) $\frac{1}{3}(5x - 6)$
- (d) none of these

Answer: (c) $\frac{1}{3}(5x - 6)$

Question 13.

How many factors does $(x^9 - x)$ have?

- (a) 5
- (b) 4
- (c) 2
- (d) 9

Answer: (a) 5

Question 14.

What are the factors of $x^2 + xy - 2xz - 2yz$?

- (a) $(x - y)$ and $(x + 2z)$
- (b) $(x + y)$ and $(x - 2z)$
- (c) $(x - y)$ and $(x - 2z)$
- (d) $(x + y)$ and $(x + 2z)$

Answer: (b) $(x + y)$ and $(x - 2z)$

Question 15.

Divide as directed: $52pqr(p + q)(q + r)(r + p) \div 104pq(q + r)(r + p)$

- (a) $r(p + q)$
- (b) $\frac{1}{2} r(p + q)$
- (c) $\frac{1}{2}$
- (d) none of these

Answer: (b) $\frac{1}{2} r(p + q)$

Question 16.

Choose the factors of $15x^2 - 26x + 8$ from the following.

- (a) $(3x - 4), (5x + 2)$
- (b) $(3x - 4), (5x - 2)$
- (c) $(3x + 4), (5x - 2)$
- (d) $(3x + 4), (5x + 2)$

Answer: (b) $(3x - 4), (5x - 2)$

Question 17.

Solve: $-20(x)^4 \div 10(x)^2$

(a) $\frac{1}{2}x$

(b) x

(c) $\frac{1}{2}$

(d) $-2x^2$

Answer: (d) $-2x^2$

Question 18.

Divide as directed: $26xy(x + 5)(y - 4) \div 13x(y - 4)$

(a) $2y(x + 5)$

(b) $(x + 5)$

(c) $2y$

(d) None of these

Answer: (a) $2y(x + 5)$
