KINETICS
We Nurture The Future
IIT-JEE | Medical | Foundations

# 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 $-18\ xyz^2$ by $-3\ xz$?
(a) 6 yz
(b) –6 yz
(c) 6 xy2
(d) 6 xy

Answer: (a) 6 yz

---

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) ÷ (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) $2y\ (x + 5)$

---