MATHS

BOOKS - ASHOK PUBLICATION ASSAM

Factorisation

Example

1. Find the common factors of the given terms.

$12x$, 36

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2. Find the common factors of the given terms.

$2y, \ 22xy$

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3. Find the common factors of the given terms.

$14pq, \ 28p^2q^2$

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4. Find the common factors of the given terms.

$2x$, $3x^2$, 4

5. Find the common factors of the given terms.

$6abc$, $24ab^2$, $12a^2b$

6. Find the common factors of the given terms.

$$16x^3, \ -4x^2, 32x$$

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7. Find the common factors of the given terms.

$$10pq, 20qr, 30rp$$

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8. Find the common factors of the given terms.

$$3x^2y^3, \; 10x^3y^2, \; 6x^2y^2z$$

9. Factorise the following expressions.

$$7x - 42$$

10. Factorise the following expressions.

$6p - 12q$

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11. Factorise the following expressions.

$7a^2 + 14a$

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12. Factorise the following expressions.

$$-16z + 20z^3$$

13. Factorise the following expressions.

$$20l^2m + 30alm$$

14. Factorise the following expressions.

$$5x^2y - 15xy^2$$

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15. Factorise the following expressions.

$$10a^2 - 15b^2 + 20c^2$$

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16. Factorise the following expressions.

$$-4a^2 + 4ab - 4ca$$

17. Factorise the following expressions.

$$x^2yz + xy^2z + xyz^2$$

18. Factorise the following expressions.

$$ax^2y + bxy^2 + cxyz$$

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19. Factorise

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

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20. Factorise

$$15xy - 6x + 5y - 2$$

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21. Factorise

$$ax + bx - ay - by$$

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22. Factorise

$$15pq + 15 + 9q + 25p$$

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23. Factorise

$$z - 7 + 7xy - xyz$$

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24. Factorise the following expressions.

$a^2 + 8a + 16$

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25. Factorise the following expressions.

$p^2 - 10p + 25$

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26. Factorise the following expressions.

$$25m^2 + 30m + 9$$

27. Factorise the following expressions.

$$49y^2 + 84yz + 36z^2$$

28. Factorise the following expressions.

$$4x^2 - 8x + 4$$

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29. Factorise the following expressions.

$$121b^2 - 88bc + 16c^2$$

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30. Factorise the following expressions.

$$(l + m)^2 - 4lm$$

31. Factorise the following expressions.

$$a^4 + 2a^2b^2 + b^4$$

32. Factorise :

$$4p^2 - 9q^2$$

33. Factorise :

$$63a^2 - 112b^2$$

34. Factorise :

$$49x^2 - 36$$

35. Factorise :

$$16x^5 - 144x^3$$

36. Factorise :

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

37. Factorise :

$$9x^2y^2 - 16$$

38. Factorise :

$$\left(x^2 - 2xy + y^2\right) - z^2$$

39. Factorise :

$$25a^2 - 4b^2 + 28bc - 49c^2$$

40. Factorise the expressions :

$$ax^2 + bx$$

41. Factorise the expressions :

$$7p^2 + 21q^2$$

42. Factorise the expressions :

$$2x^3 + 2xy^2 + 2xz^2$$

43. Factorise the expressions :

$$am^2 + bm^2 + bn^2 + an^2$$

44. Factorise the expressions :

$$(lm + l) + m + 1$$

45. Factorise the expressions :

$$y(y + z) + 9(y + z)$$

46. Factorise the expressions :

$$5y^2 - 20y - 8z + 2yz$$

47. Factorise the expressions :

$$10ab + 4a + 5b + 2$$

48. Factorise the expressions :

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

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49. Factorise :

$$a^4 - b^4$$

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50. Factorise :

$$p^4 - 81$$

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51. Factorise :

$$x^4 - (y + z)^4$$

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52. Factorise :

$$x^4 - (x - z)^4$$

53. Factorise :

$$a^4 - 2a^2b^2 + b^4$$

54. Factorise the following expressions.

$p^2 + 6p + 8$

55. Factorise the following expressions.

$q^2 - 10q + 21$

56. Factorise the following expressions.

$$p^2 + 6p - 16$$

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57. Carry out the following divisions.

$$28x^4 \div 56x$$

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58. Carry out the following divisions.

$$-36y^3 \div 9y^2$$

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59. Carry out the following divisions.

$$66pq^2r^3 \div 11qr^2$$

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60. Carry out the following divisions.

$$34x^3y^3z^3 \div 51xy^2z^3$$

61. Carry out the following divisions.

$$12a^8b^8 \div \left(-6a^6b^4 \right)$$

62. Divide the given polynomial by the given monomial.

$$\left(5x^2 - 6x\right) \div 3x$$

63. Divide the given polynomial by the given monomial.

$$\left(3y^8 - 4y^6 + 5y^4\right) \div y^4$$

64. Divide the given polynomial by the given monomial.

$$8\left(x^3 y^2 z^2 + x^2 y^3 z^2 + x^2 y^2 z^3\right) \div 4x^2 y^2 z^2$$

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65. Divide the given polynomial by the given monomial.

$$\left(x^3 + 2x^2 + 3x\right) \div 2x$$

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66. Divide the given polynomial by the given monomial.

$$\left(p^3 q^6 - p^6 q^3\right) \div p^3 q^3$$

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67. Work out the following divisions.

$$(10x - 25) \div 5$$

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68. Work out the following divisions.

$$(10x - 25) \div (2x - 5)$$

69. Work out the following divisions.

$$10y(6y + 21) \div 5(2y + 7)$$

70. Work out the following divisions.

$$9x^2y^2(3z - 24) \div 2xy(z - 8)$$

71. Work out the following divisions.

$$96abc(3a - 12)(5b - 30) \div 144(a - 4)(b - 6)$$

72. Divide as directed.

$$5(2x + 1)(3x + 5) \div (2x + 1)$$

73. Divide as directed.

$$26xy(x + 5)(y - 4) \div 13x(y - 4)$$

74. Divide as directed.

$$52pqr(p+q)(q+r)(r+p) \div 104pq(q+r)(r+p)$$

75. Divide as directed.

$$20(y+4)\left(y^2+5y+3\right) \div 5(y+4)$$

76. Divide as directed.

$$x(x+1)(x+2)(x+3) \div x(x+1)$$

77. Factorise the expressions and divide them as directed.

$$\left(y^2 + 7y + 10\right) \div (y+5)$$

78. Factorise the expressions and divide them as directed.

$$\left(m^2 - 14m - 32\right) \div (m + 2)$$

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79. Factorise the expressions and divide them as directed.

$$\left(5p^2 - 25p + 20\right) \div (p - 1)$$

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80. Factorise the expressions and divide them as directed.

$$4yz(z^2 + 6z - 16) \div 2y(z + 8)$$

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81. Factorise the expressions and divide them as directed.

$$5pq(p^2 - q^2) \div 2p(p + q)$$

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82. Factorise the expressions and divide them as directed.

$$12xy(9x^2 - 16y^2) \div 4xy(3x + 4y)$$

83. Factorise the expressions and divide them as directed.

$$39y^3(50y^2 - 98) \div 26y^2(5y + 7)$$

84. Find and correct the errors in the following mathematical statements.

$$4(x - 5) = 4x - 5$$

85. Find and correct the errors in the following mathematical statements.

$$x(3x + 2) = 3x^2 + 2$$

86. Find the correct the errors in the following mathematical statements.

$$2x + 3y = 5xy$$

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87. Find and correct the errors in the following mathematical statements.

$$x + 2x + 3x = 5x$$

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88. Find and correct the errors in the following mathematical statements.

$$5y + 2y + y - 7y = 0$$

89. Find and correct the errors in the following mathematical statements.

$$3x + 2x = 5x^2$$

90. Find and correct the errors in the following mathematical statements.

$$(2x)^2 + 4(2x) + 7 = 2x^2 + 8x + 7$$

91. Find and correct the errors in the following mathematical statements.

$$(2x)^2 + 5x = 4x + 5x = 9x$$

92. Find and correct the errors in the following mathematical statements.

$$(3x + 2)^2 = 3x^2 + 6x + 4$$

93. Find and correct the errors in the following mathematical statements.

Substituting x = -3 in

$x^2 + 5x + 4$ gives

$$(-3)^2 + 5(-3) + 4 = 9 + 2 + 4 = 15$$

94. Find and correct the errors in the following mathematical statements.

Substituting x = -3 in

$x^2 - 5x + 4$ ⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀gives

$(-3)^2 - 5(-3) + 4 = 9 - 15 + 4 = -2$

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95. Find and correct the errors in the following mathematical statements.

Substituting x = -3 in

$x^2 + 5x$ gives

$(-3)^2 + 5(-3) = -9 - 15 = -24$

96. Find and correct the errors in the following mathematical statements.

Solve :

$(y-3)^2 = y^2 - 9$

97. Find and correct the errors in the following mathematical statements.

Solve :

$$(z + 5)^2 = z^2 + 25$$

98. Find and correct the errors in the following mathematical statements.

Solve :

$$(2a + 3b)(a - b) = 2a^2 - 3b^2$$

99. Solve :

$$(a + 4)(a + 2) = a^2 + 8$$

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100. Solve :

$$(a - 4)(a - 2) = a^2 - 8$$

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101. Find and correct the errors in the following mathematical statements.

$$\frac{3x^2}{3x^2} = 0$$

102. Find and correct the errors in the following mathematical statements.

$$\frac{3x^2 + 1}{3x^2} = 1 + 1 = 2$$

103. Solve :

$$\frac{3x}{3x+2} = \frac{1}{2}$$

104. Solve :

$$\frac{3}{4x+3} = \frac{1}{4x}$$

105. Find and correct the errors in the following

mathematical statements.

$$\frac{4x + 5}{4x} = 5$$

106. Solve :

$$\frac{7x + 5}{5} = 7x$$

107. Factorise:

12x + 36

108. Factorise:

22y - 33z

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109. Factorise:

14 pq + 35 pqr

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110. Divide :

$24xy^2z^3$ by $6yz^2$

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111. Divide :

$63a^2b^4c^6$ by $7a^2b^2c^3$

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112. Resolve into factors :

$$a^4 + 2a^2bc + b^2c^2$$

113. Resolve into factors :

$$a^4 + 2a^2 + 1$$

114. Resolve into factors :

$$a^2 - 8a + 16$$

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115. Resolve into factors :

$$16 - 24a^2 + 9a^4$$

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116. Resolve into factors :

$$x^2 \pm 2 + \dfrac{1}{x^2}$$

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117. Resolve into factors :

$$a^4 - 2 + \dfrac{1}{a^4}$$

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118. Resolve into factors :

$$(a + b)^2 - 2(a + b) + 1$$

119. Resolve into factors :

$$x^2 - 1$$

120. Resolve into factors :

$$m^2 - 16$$

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121. Resolve into factors :

$$36x^2 - 1$$

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122. Resolve into factors :

$$a^4 - b^4$$

123. Resolve into factors :

$$2x^2 - 18y^2$$

124. Resolve into factors :

$$x^4 + x^2 + 1$$

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125. Resolve into factors :

$$x^4 - 3x^2 + 1$$

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126. Resolve into factors :

$$a^2 m^2 + b^2 n^2 + 2abmn$$

127. Resolve into factors :

$$25x^2 - 20x + 4$$

128. Resolve into factors :

$$4x^2 - 9$$

129. Resolve into factors :

$$x^4 + x^2y^2 + y^4$$

130. Factorise the following :

$$x^2 - 14x + 45$$

131. Factorise the following :

$$x^2 - 3x + 2$$

132. Factorise the following :

$$x^2 + 2x - 8$$

133. Factorise the following :

$$(x + 5)^2 - 36$$

134. Factorise the following :

$$6y^2 + y - 2$$

135. Factorise the following :

$$5x^2 - 8x - 4$$

136. Factorise the following :

$$3x^2 - 14x + 8$$

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137. Factorise the following :

$$x^2 - 16x - 17$$

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138. Factorise :

$$a^4 - b^4$$

▶ Watch Video Solution

139. Factorise the following :

$$x^2 - y^2$$

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140. Factorise the following :

$$4a^2 - b^2$$

141. Factorise the following :

$$a^2 + bc + ab + ac$$

142. Factorise the following :

$$ax^2 + by^2 + bx^2 + ay^2$$

143. Factorise the following :

$$9a^2 + 4b^2 + 12ab$$

144. Factorise the following :

$$16x^2 - 49y^2$$

145. Factorise the following :

$$\left(\left(a^2\right)^2 - \left(b^2\right)^2 \right)$$

146. Factorise the following :

$$x^2 - 2xy + y^2 - 9z^2$$

147. Factorise the following :

$$y^2 + \frac{1}{y^2} + 2$$

148. Factorise the following :

$$5x^2 - 15x$$

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149. Factorise the following :

$$x^2 + x - 56$$

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150. Factorise the following :

$$(x + y)^2 - (x - y)^2 + 12$$

151. Factorise the following :

$$a^2 - 5a + 6$$