MATHS

BOOKS - ABHINAY MATHS (HINGLISH)

ALGEBRA THEORY

Example

1. Which one of the following is polynomial?

A. $x^3 + y^2$

B. $x^2 + \frac{1}{x^2}$

C. $x + \sqrt{x}$

D. $x^3 + x^2 + x$

Answer:

Watch Video Solution

Watch Video Solution

2. Using remainder thereom, find the reaminder when (i) $x^4 + x^3 + x^2$ is divided by (x+2)

(ii) $x^2 + x^3 + 1$ is divided by (x-3)

Watch Video Solution

3. Factorization of Polynomial or expression-

$xa + ya + xz + yz$

Watch Video Solution

4. Factorization of Polynomial or expression-

$x^2 + 5x + 6$

Watch Video Solution

5. Factorization of Polynomial or expression-

$x^2 + 7xy + 12y^2$

Watch Video Solution

6. If $\frac{5x^2 - 3y^2}{xy} = \frac{11}{2}$, find the positive value of $\frac{x}{y}$

Watch Video Solution

7. Which one of the following is not a factor of this polynomial $x^8 + x^4 + 1$?

A. $(x^2 + 1 + x)$

B. $(x^2 + 1 - x)$

C. $(x^4 + 1 - x^2)$

D. $x^2 - 1 + x$

Answer:

Watch Video Solution

8. Find $\frac{a^4+b^4}{a^2-ab\sqrt{2}+b^2}$, if $x=a^2+b^2$ and $y=ab\sqrt{2}$

A. $x+y$

B. $x-2y$

C. $x-y$

D. $x+2y$

Answer:

Watch Video Solution

9. If $a^4+a^2b^2+b^4=12$, $a^2+ab+b^2=4$, find ab

Watch Video Solution

10. If $a^4 + a^2b^2 + b^4 = 8, a^2 + b^2 + ab = 4$ find ab

Watch Video Solution

11. If $x^4 + y^4 = 19 \text{ and } x + y = 1$ find $x^2y^2 - 2xy$

Watch Video Solution

12. Factor of $x^2 - x^{26} - x^{23} + 1$

A. $(x - 1)$ but not $(x + 1)$

B. $(x + 1)$ but not $(x - 1)$

C. both $(x + 1) \text{ and } (x - 1)$

D. Neither $(x + 1)$ nor $(x - 1)$

Answer: C

Watch Video Solution

13. If $(x-2)$ is a factor of polynomial x^2+kx+4. Find the value of k

Watch Video Solution

14. If x^3+ax^2+2x+3 is exactly divisible by $(x+1)$. Find the value of a

Watch Video Solution

15. If $(x+1)$ and $(x-1)$ are factor of ax^3+bx^2+3x+5. Find the value of a and b

Watch Video Solution

16. Find $(x+y+z)^3-(x+y-z)^3-(y+z-x)^3-(z+x-y)^3$

A. 24xyz

B. 27 xyz

C. 3xyz

D. 0

Answer: A

Watch Video Solution

17. $\frac{x^2 - 7x + 15}{x - 3}$, find remainder

Watch Video Solution

18. If $x^2 + x + 4$ is divided by $(x - 1)$, find the remainder

Watch Video Solution

19. If $x^{11} + 3$ is divided by $(x + 1)$, find the remainder

Watch Video Solution

20. If $x^{51} + 51$ is divided by x+1 , then the remainder is

Watch Video Solution

21. If $x^{40} + 3$ is dividied by $x^4 + 1$, find the remainder

Watch Video Solution

22. $x^{35} + 3$ is divided by $x^5 + 1$, find remainder

Watch Video Solution

23. If $x^2 + bx + 7$ is divided by $(x - 1)$ leaves remainder 12 find b?

Watch Video Solution

24. If $2x^2 + kx + 8$ is divided by $(x + 2)$ leaves remainder 3k find k =?

Watch Video Solution

25. $x^2 + 4x + k$ is divided by $(x - 2)$ leaves remainder 2x, find k

Watch Video Solution

26. Find the HCF of the polynomial $30(x^2 - 3x + 2)$ and $50(x^2 - 2x + 1)$

Watch Video Solution

27. Find the HCF of $f(x) = 33(2x + 3)^2(3x - 4)^3(4x - 5)^4$ and $g(x) = 22(x + 1)(2x + 3)(4x - 5)^2(4x^2 - 9)$

Watch Video Solution

28. Find the HCF of the polynomials

$f(x) = 6(x^3 + 3x^2)(x^2 - 16)(x^2 + 9x + 18)$ and $g(x) = 8(x^4 + 4x^3)(x^2$

Watch Video Solution

29. Find the LCM of the polynomials

$f(x) = 4(x-1)^2(x+1)^2(x^2 + 6x + 8)$ and $g(x) = 10(x-1)(x-2)(x^2$

Watch Video Solution

30. Find the value of b for which the HCF of

$x^2 + 2bx + 3b + 3$ and $x^2 + x - 5b$ is $(x+5)$

Watch Video Solution

31. Find the LCM and HCF of the polynomials $P(x) = (x+1)^2(x+2)$

$Q(x) = (x+1)(x-2)$

Watch Video Solution

32. If HCF and LCM of two polynomial P(x) & Q(x) is $(a+1)$ and a^3+a^2-a-1 respectively if $P(x)=\left(a^2-1\right)$, find Q(x)= ?

Watch Video Solution

33. Find HCF of $x^3+3x^2y+2xy^2$ and $x^4+6x^3y+8x^2y^2$

Watch Video Solution

34. Find HCF of $10x^3-10x^2-5x+9$ $\&30x^3-61x^2-24x+10$

A. $31x^2+29x+17$

B. $31x^2+9x+17$

C. $31x^2-9x-27$

D. $30x^2 - 11x + 11$

Answer:

Watch Video Solution

35. Find the Quadratic equation whose one root is $3 + \sqrt{3}$

Watch Video Solution

36. Two roots of equation of $2x^2 - 7x + 12 = 0$ are $\alpha \ \&\beta$ then find $\frac{\alpha}{\beta} + \frac{\beta}{\alpha} = ?$

Watch Video Solution

37. What is the product of the roots of the equation $x^3 - \sqrt{3} = 0$?

Watch Video Solution

38. If the equations $x^2 + 2x - 3 = 0$ and $x^2 + 3x - m = 0$ have a common root, then the non- zero value of m.

Watch Video Solution

39. For what value of m equation $4x^2 + 6mx + 9 = 0$ have equal roots

Watch Video Solution

40. If α & β are the roots of equation $ax^2 + bx + c = 0$ then find the quadratic equation whose roots are $\alpha + 1$ & $\beta + 1$

Watch Video Solution

41. If α & β are the roots of equation $ax^2 + bx + c = 0$ then find the Quadratic equation whose roots are $\frac{1}{\alpha}$ & $\frac{1}{\beta}$

Watch Video Solution

42. If $\alpha \ \& \ \beta$ are the roots of equation $ax^2 + bx + c = 0$ then find the quadratic equation whose roots are $\alpha^2 \ \& \ \beta^2$

Watch Video Solution

43. If $\sqrt{3x^2 - 12x + 19} + \sqrt{3x^2 - 12x - 11} = 16$ then find $\sqrt{3x^2 - 12x + 19} - \sqrt{3x^2 - 12x - 11}$= ?

Watch Video Solution

44. If $x = 2 - 2^{\frac{1}{3}} + 2^{\frac{2}{3}}$ find the value of $x^3 - 6x^2 + 18x + 18$

A. 22

B. 33

C. 40

D. 45

Answer: D

Watch Video Solution

45. If $x - y = \frac{x+y}{9} = \frac{xy}{6}$ then value of xy= ?

A. $\frac{4}{3}$

B. $\frac{9}{5}$

C. $\frac{9}{10}$

D. $\frac{1}{3}$

Answer:

Watch Video Solution

46. If the ratio of roots of equation $lx^2 + nx + n = 0$ is $p:q$ then find the value $\sqrt{\frac{p}{q}} + \sqrt{\frac{q}{p}} + \sqrt{\frac{n}{l}}$= ?

A. 1

B. 2

C. 3

D. 0

Answer:

Watch Video Solution

47. If $a+b+c=6, a^2+b^2+c^2=16$, find $ab+bc+ca$= ?

Watch Video Solution

48. $a+b+c=3, \frac{1}{a}+\frac{1}{b}+\frac{1}{c}=2$

$a^2+b^2+c^2=6$ find abc=?

Watch Video Solution

49. If $a^3 + b^3 = 0$ find $a + b =$

A. $\sqrt{3ab}$

B. $\sqrt{2ab}$

C. 3ab

D. $\sqrt{4ab}$

Answer: A::B::C

Watch Video Solution

50. If $a^4 + b^4 = a^2b^2$ find $a^6 + b^6$

Watch Video Solution

51. If $\frac{p}{a} + \frac{q}{b} + \frac{r}{c} = 1$ & $\frac{a}{p} + \frac{b}{q} + \frac{c}{r} = 0$ find $\frac{p^2}{a^2} + \frac{q^2}{b^2} + \frac{r^2}{c^2}$= ?

Watch Video Solution

52. Given $x + y = 2z$, then

$$\frac{x}{x-z} + \frac{z}{y-z} = ?$$

A. 0

B. 1

C. 2

D. 3

Answer: B

Watch Video Solution

53. Given $x + y = 2z$, then

$$\frac{x}{x-z} + \frac{z}{y-z} = ?$$

A. 1

B. 2

C. 3

D. 4

Answer: A

Watch Video Solution

54. If $x + \frac{1}{y} = 1$ and $y + \frac{1}{z} = 1$ then find the value of $z + \frac{1}{x}$

Watch Video Solution

55. Given $x + \frac{1}{y} = 1 \text{ and } y + \frac{1}{z} = 1$ find

xyz= ?

Watch Video Solution

56. Given $x + \frac{1}{y} = 1 \text{ and } y + \frac{1}{z} = 1$ find

$(x + y + z) + \left(\frac{1}{x} + \frac{1}{y} + \frac{1}{z}\right) = ?$

Watch Video Solution

57. $\left(x+\frac{1}{y}\right)=\left(y+\frac{1}{z}\right)=\left(z+\frac{1}{x}\right)$ and $(x \neq y \neq z)$ find xyz= ?

A. 1

B. -1

C. ± 1

D. 3

Answer: C

Watch Video Solution

58. If $\frac{a-b}{c}+\frac{b+c}{a}+\frac{c-a}{b}=1$ and $(b+c \neq a)$

A. $\frac{1}{a}=\frac{1}{b}+\frac{1}{c}$

B. $\frac{1}{b}=\frac{1}{a}+\frac{1}{c}$

C. $\frac{1}{c}=\frac{1}{a}+\frac{1}{b}$

D. None of these

Answer: A::B::C

Watch Video Solution

59. Given $pq + qr + rp = 0$ find

$$\frac{1}{p^2 - qr} + \frac{1}{q^2 - rp} + \frac{1}{r^2 - pq} = ?$$

Watch Video Solution

60. Given $pq + qr + rp = 0$ find

$$\frac{p^2}{p^2 - qr} + \frac{q^2}{q^2 - rp} + \frac{r^2}{r^2 - pq} = ?$$

Watch Video Solution

61. If $a^x = (x + y + z)^y$, $a^y = (x + y + z)^z$, $a^z = (x + y + z)^x$, then :

A. only $(x+Y+z)=a$

B. $x=y=z=\frac{a}{3}$

C. $x=y=z=2a$

D. $x=y=z=a$

Answer: A::C

Watch Video Solution

62. If $x(x+y+z)=4, y(x+y+z)=16$ and $z(x+y+z)=29$ and x, y & z are positive numbers. Find x, y & z=?

Watch Video Solution

63. If $(x+y)^2=21+z^2, (y+z)^2=32+x^2$ and $(z+x)^2=28+y^2$, find $x+y+z$=?

Watch Video Solution

64. If $x + \frac{1}{x} = 2$, find

$x^{11} + \frac{1}{x^{11}} = ?$

Watch Video Solution

65. If $x + \frac{1}{x} = 2$, find

$x^{112} - \frac{1}{x^{112}} = ?$

Watch Video Solution

66. If $m + \frac{1}{m-2} = 4$, find

$(m-2)^{111} + \frac{1}{(m-2)^{111}} = ?$

Watch Video Solution

67. If $m + \frac{1}{m-2} = 4$, find

$m^2 + m + 1$=?

Watch Video Solution

68. If $m + \frac{1}{m+2} = 0$ find

$(m+2)^{112} + \frac{1}{(m+2)^{112}} = ?$

Watch Video Solution

69. If $m + \frac{1}{m+2} = 0$ find

$m^4 + m^3 + m^2 + m + 1$=?

Watch Video Solution

70. If $x + \frac{1}{x} = -2$, find

$x^{11} + \frac{1}{x^{11}}$= ?

Watch Video Solution

71. If $x + \frac{1}{x} = -2$, find

$x^{112} + \frac{1}{x^{112}} = ?$

Watch Video Solution

72. If $x + \frac{1}{x} = -2$, find

$x^{112} - \frac{1}{x^{113}} = ?$

Watch Video Solution

73. If $x + \frac{1}{x} = -2$, find

$x^{11} + \frac{1}{x^{12}} = ?$

Watch Video Solution

74. If $m + \frac{1}{m+2} = -4$, find

$(m+2)^{111} + \frac{1}{(m+2)^{111}} = ?$

Watch Video Solution

75. If $m + \frac{1}{m+2} = -4$, find

$m^2 + m + 1$=?

Watch Video Solution

76. If $m + \frac{1}{m-2} = 0$, find

$(m-2)^{12} + \frac{1}{(m-2)^{11}} = ?$

Watch Video Solution

77. If $m + \frac{1}{m-2} = 0$, find

$m^5 + m^4 + m^3 + m^2 + m + 1$= ?

Watch Video Solution

78. If $x + \frac{1}{x} = 1$, find

$x^9 + \frac{1}{x^9} =$

Watch Video Solution

79. If $x + \frac{1}{x} = 1$, find

$x^{12} + \frac{1}{x^{12}} =$

Watch Video Solution

80. If $x + \frac{1}{x} = 1$, find

$x^{23} + \frac{1}{x^{23}} =$

Watch Video Solution

81. If $x + \frac{1}{x} = 1$, find

$x^{10} + \frac{1}{x^{10}} =$

Watch Video Solution

82. If $x + \frac{1}{x} = 1$, find

$x^{103} + x^{100} + x^{90} + x^{87} + x^{60} + x^{57} + x^{9} + x^{6} + x^{3} + 3 =$

Watch Video Solution

83. If $x + \frac{1}{x} = 1$, find

$x^{82} + x^{68} + x^{55} + x^{35} + x^{30} + x^{27} + x^{21} + x^{3} + 2$=?

Watch Video Solution

84. If $a + \frac{1}{a} = -1$ find $a^{3} + 3$= ?

Watch Video Solution

85. If $x + \frac{1}{x} = -1$ find

$x^{12} + \frac{1}{x^{12}} = ?$

Watch Video Solution

86. If $x + \frac{1}{x} = -1$ find

$x^{27} + \frac{1}{x^{27}} = ?$

Watch Video Solution

87. If $x + \frac{1}{x} = -1$ find

$x^{25} + \frac{1}{x^{25}} = ?$

Watch Video Solution

88. If $x + \frac{1}{x} = -1$ find

$x^{10} + \frac{1}{x^{10}}$=?

Watch Video Solution

Watch Video Solution

89. If $x + \frac{1}{x} = -1$ find

$x^{51} + x^{45} + x^{21} + x^{15} + x^{3} + 2$= ?

Watch Video Solution

90. $x^{18} + x^{12} = 0, y^{20} + y^{14} = 0$

Watch Video Solution

91. If $x + \frac{1}{x} = \sqrt{3}$ find

$x^{506} + x^{500} + x^{206} + x^{200} + x^{100} + x^{94} + x^{50} + x^{44} + x^{18} + x^{12} + x^{6} + 3$

Watch Video Solution

92. If $x + \frac{1}{x} = \sqrt{3}$ find

$x^{67} + x^{53} + x^{43} + x^{29} + x^{24} + x^{18} + x^{6} + 3$

Watch Video Solution

93. If $x + \frac{1}{x} = \sqrt{3}$ find

$x^{54} + x^{30} + x^{18} + x^{6} + 4$

Watch Video Solution

94. If $x + \frac{1}{x} = \sqrt{3}$ find

$x^{102} + \frac{1}{x^{102}}$

Watch Video Solution

95. If $x + \frac{1}{x} = \sqrt{3}$ find

$x^{48} + \frac{1}{x^{48}}$

Watch Video Solution

96. If $x + \frac{1}{x} = \sqrt{3}$ find $x^{17} + \frac{1}{x^{17}}$

Watch Video Solution

97. If $x + \frac{1}{x} = \sqrt{3}$ find $x^{25} + \frac{1}{x^{25}}$

Watch Video Solution

98. If $x + \frac{1}{x} = \sqrt{3}$ find $x^{26} + \frac{1}{x^{26}}$

Watch Video Solution

99. If $x + \frac{1}{x} = \sqrt{3}$ find

$x^{117} + \frac{1}{x^{117}}$

Watch Video Solution

100. If $x + \frac{1}{x} = -\sqrt{3}$ find

$x^{17} + \frac{1}{x^{17}}$

Watch Video Solution

101. If $x + \frac{1}{x} = -\sqrt{3}$ find

$x^{25} + \frac{1}{x^{25}}$

Watch Video Solution

102. If $x + \frac{1}{x} = 3$, then

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

Watch Video Solution

Watch Video Solution

103. If $x + \frac{1}{x} = 3$, then $x^3 + \frac{1}{x^3}$=?

Watch Video Solution

104. If $x + \frac{1}{x} = 3$, then $x^4 + \frac{1}{x^4}$= ?

Watch Video Solution

105. If $x + \frac{1}{x} = 3$, then $x^5 + \frac{1}{x^5}$= ?

Watch Video Solution

106. If $x + \frac{1}{x} = 3$, then

$x^6 + \frac{1}{x^6} = ?$

Watch Video Solution

107. If $\frac{x^2 - 1}{x} = \sqrt{5}$ and x is positive number find $\left(x^2 + \frac{1}{x^2}\right)\left(x + \frac{1}{x}\right) = ?$

Watch Video Solution

108. If $x^4 + \frac{1}{x^4} = 322$ find $x^3 - \frac{1}{x^3} = ?$

Watch Video Solution

109. If $(x - a)(x - b) = 1 \ \& \ a - b + 5 = 0$ find $(x - a)^3 - \frac{1}{(x - a)^3}$

= ?

A. 125

B. -125

C. 0

D. 140

Answer: A::D

Watch Video Solution

110. If $(x-1)^2+(y-2)^2=0$ then $x+y=$?

Watch Video Solution

111. If $(a-2)^2+(b-3)^2+(c-11)^2=0$ find $\sqrt{a+b+c}$=?

A. 4

B. -4

C. ± 4

D. 16

Answer: D

Watch Video Solution

112. If $a^2 + b^2 + c^2 = 2(a - b + c) - 3$ then find $a - b + c$= ?

Watch Video Solution

113. If $a^2 + b^2 + c^2 = 2(a + 2b - 2c) - 9$ then find $a + b + c$=?

Watch Video Solution

114. If $5x^2 + 4xy + y^2 + 2x + 1 = 0$ then find the value of x, y

Watch Video Solution

115. If $x^2 + y^2 + z^2 + 12x + 4y + 5 = 0$ find $x^{12} + y + z^{30}$= ?

Watch Video Solution

116. If $(x + y - z - 1)^2 + (z + x - y - 2)^2 + (z + y - x - 4)^2 = 0$ find $x + y + z$=?

Watch Video Solution

117. If a= 297, b= 298, c= 299 and find $a^2 + b^2 + c^2 - ab - bc - ca$?

Watch Video Solution

118. If $a^2 + b^2 + c^2 = ab + bc + ca$ find $\frac{a + c}{b}$= ?

Watch Video Solution

119. If $a^2 + b^2 + c^2 = ab + bc + ca$ then

$\frac{a+b}{c} + \frac{b+c}{a} + \frac{c+a}{b}$=?

Watch Video Solution

120. If $a^2 + b^2 + c^2 = ab + bc + ca$ then

$\frac{c}{a+b} + \frac{b}{a+c} + \frac{c}{a+b}$= ?

Watch Video Solution

121. If $a^2 + b^2 + c^2 = ab + bc + ca$ then

$\left(\frac{a+b}{c} + \frac{b+c}{a} + \frac{c+a}{b}\right)\left(\frac{c}{a+b} + \frac{b}{a+c} + \frac{c}{a+b}\right)$=?

Watch Video Solution

122. If $a + b + c = 0$, then $\frac{a+b}{c}$= ?

Watch Video Solution

123. If $a+b+c=0$, then

$$\frac{a+b}{c}+\frac{b+c}{a}+\frac{c+a}{b}=?$$

Watch Video Solution

124. If $a+b+c=0$, then

$$\frac{c}{a+b}+\frac{b}{a+c}+\frac{a}{b+c}=?$$

Watch Video Solution

125. If $a+b+c=0$, then

$$\left(\frac{a+b}{c}+\frac{b+c}{a}+\frac{c+a}{b}\right)\left(\frac{c}{a+b}+\frac{b}{a+c}+\frac{a}{b+c}\right)=?$$

Watch Video Solution

126. If a=b= 333, c= 334 find $a^3+b^3+c^3-3abc$

Watch Video Solution

127. If a= 20, b= 25, c= 15 find $\frac{a^3+b^3+c^3-3abc}{a^2+b^2+c^2-ab-bc-ca}$= ?

Watch Video Solution

128. If a= 25, b= 15, $c=-10$ then $\frac{a^3+b^3+c^3-3abc}{(a-b)^2+(b-c)^2+(c-a)^2}$

Watch Video Solution

129. If $a^3+b^3+c^3=3abc$ and a, b , c are distinct numbers. Which option is correct?

(a) $a+b+c=0$ (b) a= b= c

Watch Video Solution

130. If $a^3 + b^3 + c^3 = 3abc$ and a, b , c are distinct numbers. Which option is correct?

(a) $a + b + c = 0$ (b) a= b= c

Watch Video Solution

131. If $a + b + c = 0$ find $\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab} = ?$

Watch Video Solution

132. If $a + b + c = 0$ find $a^3 + b^3 + c^3 + 3abc$

Watch Video Solution

133. Find $(a - b)^3 + (b - c)^3 + (c - a)^3 = ?$

Watch Video Solution

134. Find $\frac{(x^2-y^2)^3+(y^2-z^2)^3+(z^2-x^2)^3}{(x-y)^3+(y-z)^3+(z-x)^3}$

A. $3(x+y)(y+z)(z+x)$

B. $3(x+y)(y+z)(z-x)$

C. $(x+y)(y+z)(z+x)$

D. $9(x+y)(y+z)(z+x)$

Answer:

Watch Video Solution

135. What will be factors of $(a^2-b^2)^3+(b^2-c^2)^3+(c^2-a^2)^3$

A. $(a+b)(a-b)$

B. $(a+b)(a+b)$

C. $(a-c)(a-c)$

D. $(b-c)(b-c)$

Answer: A::B

Watch Video Solution

136. If $x+y+z=2s$ find $(s-x)^3+(s-y)^3+3(s-x)(s-y)z=$?

A. z^3

B. $-z^3$

C. 0

D. $2z^3$

Answer: C

Watch Video Solution

137. If a= 1.21, b= 2.23 & c= -3.44 find $a^3+b^3+c^3+3abc$= ?

A. 6ab

B. 6abc

C. 1

D. 0

Answer:

Watch Video Solution

138. If a= 5.431, b= 2.121 & c= -7.552 find $a^3 + b^3 + c^3 + 3abc = \ ?$

A. 6ab

B. 6abc

C. 1

D. 0

Answer: 6abc

Watch Video Solution

139. If $a^{\frac{1}{3}} + b^{\frac{1}{3}} = c^{\frac{1}{3}}$ then which option is correct ?

A. $a^3 + b^3 + c^3 = ab$

B. $a + b + c = 3abc$

C. $(a + b - c)^3 + 27abc = 0$

D. $(a + b + c)^3 + 27abc = 0$

Answer: A::B::C

Watch Video Solution

140. If $a^2 + b^2 = c^2$ then find $\frac{a^6 + b^6 - c^6}{a^2b^2c^2} = ?$

Watch Video Solution

141. If $\frac{1}{a+1} + \frac{1}{1+b} + \frac{1}{1+c} = 1$
find $\frac{a}{1+a} + \frac{b}{1+b} + \frac{c}{1+c}$= ?

Watch Video Solution

Watch Video Solution

142. If $\frac{1}{x+1}+\frac{2}{y+2}+\frac{1009}{z+1009}=1$ find $\frac{x}{x+1}+\frac{y}{y+2}+\frac{z}{z+1009}=?$

Watch Video Solution

143. If $\frac{a}{x-a}+\frac{b}{y-b}+\frac{c}{z-c}=2$ find $\frac{x}{x-a}+\frac{y}{y-b}+\frac{z}{z-c}=?$

Watch Video Solution

144. If $\frac{a}{x-1}+\frac{4b}{y-2b}+\frac{9c}{z-3c}=6-a$ find $\frac{ax}{x-1}+\frac{2y}{y-2b}+\frac{3z}{z-3c}=?$

Watch Video Solution

145. If $\frac{a}{b+c}+\frac{b}{c+a}+\frac{c}{a+b}=1$ find $\frac{a^2}{b+c}+\frac{b^2}{c+a}+\frac{c^2}{a+b}=?$

Watch Video Solution

Watch Video Solution

146. If $\frac{a^2-bc}{a^2+bc}+\frac{b^2-ac}{b^2+ac}+\frac{c^2-ab}{c^2+ab}=1$ then find $\frac{a^2}{a^2+bc}+\frac{b^2}{b^2+ac}+\frac{c^2}{c^2+ab}=?$

Watch Video Solution

147. Given, $a^2=b+c, b^2=c+a \ \& \ c^2=a+b$ or $\frac{a^2}{b+c}=\frac{b^2}{c+a}=\frac{c^2}{a+b}=1$

find $\frac{1}{1+a}+\frac{1}{1+b}+\frac{1}{1+c}=?$

Watch Video Solution

148. Given, $a^2=b+c, b^2=c+a \ \& \ c^2=a+b$ or $\frac{a^2}{b+c}=\frac{b^2}{c+a}=\frac{c^2}{a+b}=1$

find $\frac{a}{1+a}+\frac{b}{1+b}+\frac{c}{1+c}=?$

Watch Video Solution

149. $\frac{x^2}{by+cz}=\frac{y^2}{ax+cz}=\frac{z^2}{ax+by}=1$ find $\frac{a}{x+a}+\frac{b}{y+b}+\frac{c}{z+c}=?$

Watch Video Solution

150. $\frac{x^2}{by+cz}=\frac{y^2}{ax+cz}=\frac{z^2}{ax+by}=1$ find $\frac{x}{x+a}+\frac{y}{y+a}+\frac{z}{z+c}=?$

Watch Video Solution

151. If $\frac{x^2}{by+cz}=\frac{y^2}{ax+cz}=\frac{z^2}{ax+by}=2$ $\frac{a}{x+2a}+\frac{b}{y+2b}+\frac{c}{z+2c}=?$

Watch Video Solution

152. If $\frac{x^2}{by+cz}=\frac{y^2}{ax+cz}=\frac{z^2}{ax+by}=2$ $\frac{x}{x+2a}+\frac{y}{y+2b}+\frac{z}{z+2c}=?$

Watch Video Solution

153. If $xy + yz + zx = 1$ find $\frac{x+y}{1-xy} + \frac{y+z}{1-yz} + \frac{z+x}{1-zx}$ = ?

Watch Video Solution

154. If $x = \frac{4\sqrt{15}}{\sqrt{5}+\sqrt{3}}$, then $\frac{x+\sqrt{20}}{x-\sqrt{20}} + \frac{x+\sqrt{12}}{x-\sqrt{12}} = ?$

Watch Video Solution

155. If $x = \frac{1}{\sqrt{3}+\sqrt{2}}, y = \frac{1}{\sqrt{3}-\sqrt{2}}$ then find $\frac{1}{x+1} + \frac{1}{y+1}$

A. 0

B. 1

C. 2

D. -1

Answer: A

Watch Video Solution

156. If $x = \frac{\sqrt{87} - \sqrt{71}}{\sqrt{55} + \sqrt{39}}$ & $y = \frac{\sqrt{87} + \sqrt{71}}{\sqrt{55} - \sqrt{39}}$ then find $\frac{1}{x+1} + \frac{1}{y+1} = ?$

Watch Video Solution

157. What wil be the minimum value of $12 + (x-2)^2$?

Watch Video Solution

158. What will be the maximum value of $15 - (x-3)^2$?

Watch Video Solution

159. If $5-(3a-2b)^2$ will be $\max^m$, when $\frac{a}{b}$= ?

Watch Video Solution

160. Find the minimum value of $3x^2-6x+11$

Watch Video Solution

161. Find the maximum value of $13-4x-x^2$

Watch Video Solution

162. Expression $15-7x-2x^2$ will be maximum when x= ?

Watch Video Solution

163. Expression $4x^2-16x+17$ will be minimum when x= ?

Watch Video Solution

164. Find minimum value of $(9-x)(2-x)$

Watch Video Solution

165. Find maximum value of $(6-x)(x+4)$

Watch Video Solution

166. Minimum value of $x^2+\frac{1}{x^2+1}-3$ is

Watch Video Solution

167. Minimum value of $x^2+\frac{1}{x^2+1}-3$ is

Watch Video Solution

168. If $\sqrt{x^2 - x + 1} + \frac{1}{\sqrt{x^2 - x + 1}} = 2 - x^2$, How many value possible for x?

A. 0

B. 1

C. 2

D. 3

Answer:

Watch Video Solution

169. If $x + y = 6$ then max value of xy

Watch Video Solution

170. If $a + b + c + d = 1$ then maximum value of $ab + bc + cd + da$

Watch Video Solution

171. If $x+y+z=21$ then find the maximum value of $(x-2)(y-1)(z+9)$

Watch Video Solution

172. If xy= 16, find minimum value of x+y

Watch Video Solution

173. If $(x-7)(y-10)(z-12)=1000$, then find the minimum value of $(x+y+z)$

Watch Video Solution