MATHS

BOOKS - KC SINHA ENGLISH

DETERMINANTS - FOR BOARDS

Solved Examples

1. Evaluate: $\begin{vmatrix} 219 & 117 & 345 \\ 19 & 9 & 34 \\ 7 & 3 & 6 \end{vmatrix}$

Watch Video Solution

2. Show that $\begin{vmatrix} 1 & a & a^2 \\ 1 & b & b^2 \\ 1 & c & c^2 \end{vmatrix} = (a-b)(b-c)(c-a)$

Watch Video Solution

3. Prove that $\begin{vmatrix} 1 & a & a^3 \\ 1 & b & b^3 \\ 1 & c & c^3 \end{vmatrix} = (a-b)(b-c)(c-a)(a+b+c)$

Watch Video Solution

4. $\begin{vmatrix} x+1 & x+2 & x+a \\ x+2 & x+3 & x+b \\ x+3 & x+4 & x+c \end{vmatrix} = 0$ where a, b and c are in AP.

Watch Video Solution

5. Using properties of determinants, prove the following:

$|3a-a+b-a+ca-b3bc-ba-cb-c3c| = 3(a+b+c)(a\,b+b\,c+$

Watch Video Solution

6. Solve: $|a+xa-xa-xa-xa+xa-xa-xa-xa+x| = 0$

Watch Video Solution

7. Prove the identities:

$$|abca - - - ab + + ac + b| = a^3 + b^3 + c^3 - 3abc$$

Watch Video Solution

8. Prove that:

$$\begin{vmatrix} \alpha & \beta & \gamma \\ \alpha^2 & \beta^2 & \gamma^2 \\ \beta+\gamma & \gamma+\alpha & \alpha+\beta \end{vmatrix} = (\alpha-\beta)(\beta-\gamma)(\gamma-\alpha)(\alpha+\beta+\gamma)\,.$$

Watch Video Solution

9. about to only mathematics

Watch Video Solution

10. Prove that: |(1+a_1, 1, 1),(1, 1+a_2, 1),(1, 1, 1+a_3)|=a_1 a_2 a_3 (1+ 1/a_1+1/a_2+1/a_3)`

Watch Video Solution

11. Prove the following, using properties of determinants:

$|a+b+2cabcb+c+2abcac+a+2b| = 2(a+b+c)^3$

Watch Video Solution

12. Let a, b, c be positive and not all equal. Show that the value of the determinant $\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$ is negative.

Watch Video Solution

13. Prove that

$|aa+ba+b+c2a3a+2B4a+3b+2c3a6a+3b10a+6b+3c| = a^3$

Watch Video Solution

14. show that $\begin{vmatrix} 1 & 1+p & 1+p+q \\ 2 & 3+2p & 1+3p+2q \\ 3 & 6+3p & 1- \ +6p+3q \end{vmatrix} = 1$

Watch Video Solution

15. Show that

$$|1+a1111+b1111+c| = abc\left(1+\frac{1}{a}+\frac{1}{b}+\frac{1}{c}\right) = abc+bc+ca+ab$$

Watch Video Solution

16. prove that $\begin{vmatrix} a^2+1 & ab & ac \\ ab & b^2+1 & bc \\ ac & bc & c^2+1 \end{vmatrix} = 1+a^2+b^2+c^2.$

Watch Video Solution

17. Prove that: $\begin{vmatrix} (b+c)^2 & a^2 & a^2 \\ b^2 & (c+a)^2 & b^2 \\ c^2 & c^2 & (a+b)^2 \end{vmatrix} = 2abc(a+b+c)^3$

Watch Video Solution

Watch Video Solution

18. If $2s = a + b + c$ and $A = \begin{vmatrix} a^2 & (s-a)^2 & (s-a)^2 \\ (s-b)^2 & b^2 & (s-b)^2 \\ (s-c)^2 & (s-c)^2 & c^2 \end{vmatrix}$ is equal to

Watch Video Solution

19. Prove that identities:

$$\left| -bcb^2 + b\hat{}2 + bca^2 + ac - a\hat{}2 + aca^2 + a\hat{}2 + ab - ab \right| = (ab + b$$

Watch Video Solution

20. Prove that $\begin{vmatrix} -2a & a+b & a+c \\ b+a & -2b & b+c \\ c+a & c+b & -2c \end{vmatrix} = 4(a+b)(b+c)(c+a)$

Watch Video Solution

21. Show that: $\begin{vmatrix} b+c & c+a & a+b \\ q+r & r+p & p+q \\ y+z & z+x & x+y \end{vmatrix} = 2\begin{vmatrix} a & b & c \\ p & q & r \\ x & y & z \end{vmatrix}$.

Watch Video Solution

22. Solve the equation: $\begin{vmatrix} 15-x & 1 & 10 \\ 11-3x & 1 & 16 \\ 7-x & 1 & 13 \end{vmatrix} = 0$

Watch Video Solution

23. Solve the equation $\begin{vmatrix} a-x & c & b \\ c & b-x & a \\ b & a & c-x \end{vmatrix} = 0$ where $a+b+c \neq 0$.

Watch Video Solution

24. find the area of triangle whose vertices are (3,8),(-4,2)and (5,1)

Watch Video Solution

25. If the area of ABC formed by $A(x, y), B(1, 2) and C(2, 1)$ is 7 squae units, then prove that $x + y = 15$ or , $x + y + 9 = 0$

Watch Video Solution

26. Examine whether points $(-8, 3), (2, -2)$ and $(-4, 1)$ are collinear or not.

Watch Video Solution

27. (i) Find the equation of line joining (1,2) and (3,4) using determinants,

(ii) Find the equation of the line joining (3,1) and (9,3) using determinants.

Watch Video Solution

Exercise

1. Evaluate the following: $\begin{vmatrix} 7 & 5 \\ -2 & 3 \end{vmatrix}$

Watch Video Solution

2. Evaluate the following: $\begin{vmatrix} \cos\alpha & \sin\alpha \\ \sin\alpha & \cos\alpha \end{vmatrix}$

Watch Video Solution

3. Evaluate the following: $\begin{vmatrix} \tan\alpha & \cos ec\alpha \\ \sin\alpha & \cot\alpha \end{vmatrix}$

Watch Video Solution

4. Evaluate the following: $|\cos\theta, \ -\sin\theta], [\sin\theta, \cos\theta]|$

Watch Video Solution

5. Evaluate the following: $\begin{vmatrix} \frac{1}{2} & \frac{1}{5} \\ \frac{1}{2} & \frac{1}{7} \end{vmatrix}$

Watch Video Solution

6. Evaluate the following: $\begin{vmatrix} x^2 - x & x - 1 \\ x + 1 & x + 1 \end{vmatrix}$

Watch Video Solution

7. Write the value of $\begin{vmatrix} a + ib & c + id \\ -c + id & a - ib \end{vmatrix}$.

Watch Video Solution

8. Evaluate the following: $\begin{vmatrix} \frac{1}{2} & 8 \\ 4 & 2 \end{vmatrix}$

Watch Video Solution

9. If $A = [1242]$, then show that $|2A| = 4|A|$.

Watch Video Solution

10. If $A = \begin{bmatrix} 2 & 4 \\ -5 & -1 \end{bmatrix}$ show that: $|3A| = 9|A|$

Watch Video Solution

11. Write the minor and cofactor of each element of second column in the following determinants and evaluate them: $\begin{vmatrix} 4 & 9 & 7 \\ 3 & 5 & 7 \\ 5 & 4 & 5 \end{vmatrix}$

Watch Video Solution

12. Write the minor and cofactor of each element of second column in the following determinants and evaluate them: $\begin{vmatrix} 1 & 2 & 4 \\ 1 & 3 & 9 \\ 1 & 4 & 16 \end{vmatrix}$

Watch Video Solution

13. Write the cofactor of a_{12} in the matrix $\begin{bmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 4 & 5 & -7 \end{bmatrix}$

Watch Video Solution

14. Write the minor and cofactor of each element of the following determinants and also evaluate the determinant in each case: $\begin{vmatrix} 5 & -10 \\ 0 & 3 \end{vmatrix}$

Watch Video Solution

15. Write the minor and cofactor of each element of the following determinants and also evaluate the determinant in each case: $\begin{vmatrix} 1 & 3 & -2 \\ 4 & -5 & 6 \\ 3 & 5 & 2 \end{vmatrix}$

Watch Video Solution

16. Write the minor and cofactor of each element of the following determinants and also evaluate the determinant in each case: $\begin{vmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{vmatrix}$

Watch Video Solution

17. Evaluate the following: $\begin{vmatrix} 1 & 5 & 7 \\ 6 & 7 & 2 \\ 1 & 2 & 3 \end{vmatrix}$

Watch Video Solution

18. Evaluate the following: $\begin{vmatrix} 1^2 & 2^2 & 3^2 \\ 2^2 & 3^2 & 4^2 \\ 3^2 & 4^2 & 5^2 \end{vmatrix}$

Watch Video Solution

19. Evaluate the following: $\begin{vmatrix} a & h & g \\ h & b & f \\ g & f & c \end{vmatrix}$

Watch Video Solution

20. Evaluate the following: $\begin{vmatrix} 43 & 3 & 6 \\ 35 & 21 & 4 \\ 17 & 9 & 2 \end{vmatrix}$

Watch Video Solution

21. Evaluate the following: $\begin{vmatrix} 9 & 9 & 12 \\ 1 & 3 & -4 \\ 1 & 9 & 12 \end{vmatrix}$

Watch Video Solution

22. Evaluate the following: $\begin{vmatrix} 42 & 1 & 6 \\ 28 & 7 & 4 \\ 14 & 3 & 2 \end{vmatrix}$

Watch Video Solution

23. Evaluate the following: $\begin{vmatrix} 3 & -4 & 5 \\ 1 & 1 & -2 \\ 2 & 3 & 1 \end{vmatrix}$

Watch Video Solution

24. Evaluate the following: $\begin{vmatrix} 2 & -1 & -2 \\ 0 & 2 & -1 \\ 3 & -5 & 0 \end{vmatrix}$

Watch Video Solution

25. about to only mathematics

Watch Video Solution

26. Evaluate the following: $\begin{vmatrix} 0 & 1 & 2 \\ -1 & 0 & -3 \\ -2 & 3 & 0 \end{vmatrix}$

Watch Video Solution

27. Evaluate the determinant $\Delta = \begin{vmatrix} 1 & 2 & 4 \\ -1 & 3 & 0 \\ 4 & 1 & 0 \end{vmatrix}$

Watch Video Solution

28. Evaluate the following: If $A = \begin{bmatrix} 1 & 1 & -2 \\ 2 & 1 & -3 \\ 5 & 4 & -9 \end{bmatrix}$ find |A|

Watch Video Solution

29. If $A = [101012004]$, then show that $|3A| = 27|A|$

Watch Video Solution

30. Evaluate the following: $\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1+x & 1 \\ 1 & 1 & 1+y \end{vmatrix}$

Watch Video Solution

31. Evaluate the following: $\begin{vmatrix} 1 & a & bc \\ 1 & b & ca \\ 1 & c & ab \end{vmatrix}$

Watch Video Solution

32. Evaluate the following: $\begin{vmatrix} x+\lambda & x & x \\ x & x+\lambda & x \\ x & x & x+\lambda \end{vmatrix}$

Watch Video Solution

33. Evaluate the following: $\begin{vmatrix} 1 & & a^2-bc \\ 1 & b & b^2-ac \\ 1 & c & c^2-ab \end{vmatrix}$

Watch Video Solution

34. Evaluate the following: $\begin{vmatrix} 1 & 1 & 1 \\ \alpha & \beta & \gamma \\ \beta\gamma & \gamma\alpha & \alpha\beta \end{vmatrix}$

Watch Video Solution

35. Prove that : $\left|a^2 2a+112a+1a+21331\right| = (a-1)^3$

Watch Video Solution

36. Evaluate the following $\begin{vmatrix} 1 & 1 & 1 \\ a^2 & b^2 & c^2 \\ a^3 & b^3 & c^3 \end{vmatrix}$

Watch Video Solution

37. Evaluate the following: $\begin{vmatrix} a & b & c \\ a^2 & b^2 & c^2 \\ a^3 & b^3 & c^3 \end{vmatrix}$

Watch Video Solution

38. Show that $\begin{vmatrix} 1 & a & b+c \\ 1 & b & c+a \\ 1 & c & a+b \end{vmatrix} = 0$.

Watch Video Solution

39. Prove: $\left|0b^2ac^2aa^2b0c^2ba^2cb^2c0\right| = 2a^3b^3c^3$

Watch Video Solution

40. Evaluate $\begin{vmatrix} 1 & x & y \\ x & x+y & y \\ 1 & x & x+y \end{vmatrix}$

Watch Video Solution

41. Evaluate the following: $\left|\left[a, b+c, a^2\right], \left[b, c+a, b^2\right], \left[c, a+bc^2\right]\right|$

Watch Video Solution

42. $\begin{vmatrix} b+c & a-b & a \\ c+a & b-c & b \\ a+b & c-a & c \end{vmatrix}$ =

Watch Video Solution

43. Write the value of the following determinant:

$|a- \quad - \quad -ab- \quad -aa-bc-aa- \quad -c|$

Watch Video Solution

44. Evaluate $\begin{vmatrix} 1 & \omega & \omega^2 \\ \omega & \omega^2 & 1 \\ \omega^2 & \omega & \omega \end{vmatrix}$ where ω is cube root of unity.

Watch Video Solution

45. If a, b, c, are in A.P, find value of $|ay + 45y + 78y + a3y + 56y + 89y + b4y + 67y + 910y + c|$

Watch Video Solution

46. Evaluate $|xyx + yyx + y \times + yxy|$.

Watch Video Solution

47. Show that : $\begin{vmatrix} x & y & z \\ x^2 & y^2 & z^2 \\ x^3 & y^3 & z^3 \end{vmatrix} = xyz(x-y)(y-z)(z-x)\cdot$

Watch Video Solution

48. For a fixed positive integer n, if $= |n!(n+1)!(n+2)!(n+1)!(n+2)!(n+3)!(n+2)!(n+3)!(n+4)!$, then show that $\left[/\left((n!)^3\right) - 4\right]$ is divisible by n.

Watch Video Solution

49. Prove: $\begin{vmatrix} 1 & a^2+bc & a^3 \\ 1 & b^2+ca & b^3 \\ 1 & c^2+ab & c^3 \end{vmatrix} = -(a-b)(b-c)(c-a)\left(a^2+b^2+c^2\right)$

Watch Video Solution

50. Q. $\begin{vmatrix} x+y & x & x \\ 15x+4y & 4x & 2x \\ 10x+8y & 8x & 3x \end{vmatrix} = 51x^3$ Find the value of x.

Watch Video Solution

51. Prove that

$$\begin{vmatrix} b+c & c+a & a+b \\ c+a & a+b & b+c \\ a+b & b+c & c+a \end{vmatrix} = 2(a+b+c)\left(ab+bc+ca-a^2-b^2-c^2\right).$$

Watch Video Solution

52. Using properties of determinant prove that:

$$\begin{vmatrix} 1 & x+y & x^2+y^2 \\ 1 & y+z & y^2+z^2 \\ 1 & z+x & z^2+x^2 \end{vmatrix} = (x-y)(y-z)(z-x)$$

Watch Video Solution

53. Prove: $\begin{vmatrix} a-b-c & 2a & 2a \\ 2b & b-c-a & 2b \\ 2c & 2c & c-a-b \end{vmatrix} = (a+b+c)^3$

Watch Video Solution

54. Using properties of determinant prove that

$|a+b+c-c-b-ca+b+c-a-b-aa+b+c| = 2(a+b)(b+c)(c$

Watch Video Solution

55. show that $\begin{vmatrix} y+z & x & y \\ z+x & z & x \\ x+y & y & z \end{vmatrix} = (x+y+z)(x-z)^2$

Watch Video Solution

56. Using properties of determinants, prove the following:

$|1 \times^2 x^2 1 \times x^2 1| = \left(1-x^3\right)^2$

Watch Video Solution

57. Show that: $\begin{vmatrix} a & b-c & c+b \\ a+c & b & c-a \\ a-b & b+a & c \end{vmatrix} = (a+b+c)\left(a^2+b^2+c^2\right).$

Watch Video Solution

58. show that $\begin{vmatrix} y+z & x & y \\ z+x & z & x \\ x+y & y & z \end{vmatrix} = (x+y+z)(x-z)^2$

Watch Video Solution

59. Prove:

$\left|(b+c)^2 a^2 bc (c+a)^2 b^2 ca (a+b)^2 c^2 ab\right| = (a-b)(b-c)(c-a)(a+b+c)$

.

Watch Video Solution

60. Prove:

$\begin{vmatrix} a^2 & a^2-(b-c)^2 & bc \\ b^2 & b^2-(c-a)^2 & ca \\ c^2 & c^2-(a-b)^2 & ab \end{vmatrix} = (a-b)(b-c)(c-a)(a+b+c)\left(a^2+b^2+c^2\right)$

Watch Video Solution

61. Show that: $\left|b^2+c^2 abacbac^2+a^2 bacba^2+b^2\right|=4a^2b^2c^2$

Watch Video Solution

62. Prove that:

$$|abax+bybcbx+cyax+bybx+cy0|=\left(b^2-ac\right)\left(ax^2+2bxy+cy^2\right)$$

Watch Video Solution

63. Prove that:

$$2x^2+2b^2+2c^2-2ab-2bc-2ca=\left[(a-b)^2+(b-c)^2+(c-a)^2\right]$$

Watch Video Solution

64. Evaluate $\begin{vmatrix} \cos\alpha\cos\beta & \cos\alpha\sin\beta & -\sin\alpha \\ -\sin\beta & \cos\beta & 0 \\ \sin\alpha\cos\beta & \sin\alpha\sin\beta & \cos\alpha \end{vmatrix}$

Watch Video Solution

65. Without expanding, prove that

$$\begin{vmatrix} a+bx & c+dx & p+qx \\ ax+b & cx+d & px+q \\ u & v & w \end{vmatrix} = (1-x^2)\begin{vmatrix} a & c & p \\ b & d & q \\ u & v & w \end{vmatrix}.$$

Watch Video Solution

66. Using properties of determinants. Prove that

$$|\sin\alpha\cos\alpha\cos(\alpha+\delta)\sin\beta\cos\beta\cos(\beta+\delta)\sin\gamma\cos\gamma\cos(\gamma+\delta)| = 0$$

Watch Video Solution

67. Prove that $\begin{vmatrix} \sin\alpha & \cos\alpha & \sin(\alpha+\delta) \\ \sin\beta & \cos\beta & \sin(\beta+\delta) \\ \sin\gamma & \cos\gamma & \sin(\gamma+\delta) \end{vmatrix} = 0.$

Watch Video Solution

68. Prove that the determinant $[x\sin\theta\cos\theta - \sin\theta - x1\cos\theta 1x]$ is independent of 0.

Watch Video Solution

69. For any scalar p prove that

$$= \begin{vmatrix} x & x^2 & 1+px^3 \\ y & y^2 & 1+py^3 \\ z & z^2 & 1+pz^3 \end{vmatrix} = (1+pxyz)(x-y)(y-z)(z-x)\,.$$

Watch Video Solution

70. Without expanding, show that the value of each of the determinants is zero: $\begin{vmatrix} \frac{1}{a} & a^2bc & \frac{1}{b} \\ b^2ac & \frac{1}{c} & c^2ab \end{vmatrix}$

Watch Video Solution

71. Show that $\begin{vmatrix} 1 & a & b+c \\ 1 & b & c+a \\ 1 & c & a+b \end{vmatrix} = 0\,.$

Watch Video Solution

72. Without expanding at any state, prove that $\begin{vmatrix} \frac{1}{a} & a & bc \\ \frac{1}{b} & b & ca \\ \frac{1}{c} & c & ab \end{vmatrix} = 0$

Watch Video Solution

73. Without expanding at any state, prove that $\begin{vmatrix} 1 & bc & a(b+c) \\ 1 & ca & b(c+a) \\ 1 & ab & c(a+b) \end{vmatrix} = 0$

Watch Video Solution

74. Without expanding prove that: $\begin{vmatrix} x+y & y+z & z+x \\ z & x & y \\ 1 & 1 & 1 \end{vmatrix} = 0\,.$

Watch Video Solution

75. Using the property of determinants and without expanding, prove that: $|xax + ayby + bzcz + c| = 0$

Watch Video Solution

Watch Video Solution

76. Using the property of determinants and without expanding, prove that: $\left|276538754986\right| = 0$

Watch Video Solution

77. Show without expanding at any stage that:

$$\begin{vmatrix} a+b & b+c & c+a \\ b+c & c+a & a+b \\ c+a & a+b & b+c \end{vmatrix} = 2\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$$

Watch Video Solution

78. Evaluate $\Delta = \begin{vmatrix} 0 & \sin\alpha & -\cos\alpha \\ -\sin\alpha & 0 & \sin\beta \\ \cos\alpha & -\sin\beta & 0 \end{vmatrix}$

Watch Video Solution

79. Prove that: $\begin{vmatrix} 0 & a & -b \\ -a & 0 & -c \\ b & c & 0 \end{vmatrix} = 0$.

Watch Video Solution

80. Show without expanding at any stage that:

$$\begin{vmatrix} 1 & \cos\alpha - \sin\alpha & \cos\alpha + \sin\alpha \\ 1 & \cos\beta - \sin\beta & \cos\beta + \sin\beta \\ 1 & \cos\gamma - \sin\gamma & \cos\gamma + \sin\gamma \end{vmatrix} = 2 \begin{vmatrix} 1 & \cos\alpha & \sin\alpha \\ 1 & \cos\beta & \sin\beta \\ 1 & \cos\gamma & \sin\gamma \end{vmatrix}$$

Watch Video Solution

81. Show without expanding at any stage that:

$$\begin{vmatrix} (a-1)^2 & a^2+1 & a \\ (b-1)^2 & b^2+1 & b \\ (c-1)^2 & c^2+1 & c \end{vmatrix} = 0$$

Watch Video Solution

82. Without expanding at any stage, find the value of :

$$\begin{vmatrix} a & b & c \\ a+2x & b+2y & c+2z \\ x & y & z \end{vmatrix}$$

Watch Video Solution

83. Without expanding at any stage, prove that $\begin{vmatrix} 1 & a & a^2 \\ 1 & b & b^2 \\ 1 & c & c^2 \end{vmatrix} = \begin{vmatrix} 1 & a & bc \\ 1 & b & ca \\ 1 & c & ab \end{vmatrix}$

Watch Video Solution

84. Without expanding the determinant, prove that

$|aa^2bc \hat{} 2ca \hat{} 2ab| = |1a^2a^31b^2b^31c^2c^3|$

Watch Video Solution

85. Solve the equation: $\begin{vmatrix} 2 & 4 \\ 5 & 1 \end{vmatrix} = \begin{vmatrix} 2x & 4 \\ 6 & x \end{vmatrix}$

Watch Video Solution

Watch Video Solution

86. Solve the equation: $\begin{vmatrix} 3 & x \\ x & 1 \end{vmatrix} = \begin{vmatrix} 3 & 2 \\ 4 & 1 \end{vmatrix}$

Watch Video Solution

87. Solve the equation: $\begin{vmatrix} 2 & 3 \\ 4 & 5 \end{vmatrix} = \begin{vmatrix} x & 3 \\ 2x & 5 \end{vmatrix}$

Watch Video Solution

88. Solve the equation: $\begin{vmatrix} a & a & x \\ a & a & a \\ b & x & b \end{vmatrix} = 0$

Watch Video Solution

89. Solve the equation: $\begin{vmatrix} x & 2 & 3 \\ 4 & x & 1 \\ x & 2 & 5 \end{vmatrix} = 0$

Watch Video Solution

90. Solve the following determinant equation:

$$\begin{vmatrix} x+a & b & c \\ c & x+b & a \\ a & b & x+c \end{vmatrix} = 0$$

Watch Video Solution

91. Solve the equation: $\begin{vmatrix} x & 1 & 1 \\ 1 & x & 1 \\ 1 & 1 & x \end{vmatrix} = 0$

Watch Video Solution

92. Find the area of the triangle whose vertices are: $(-2, 4), (2, -6), (5, 4)$

Watch Video Solution

93. Find the area of the triangle whose vertices are: $(2, 7), (1, 1), (10, 8)$

Watch Video Solution

94. Find the area of the triangle whose vertices are: $(1, 0), (6, 0), (4, 3)$

Watch Video Solution

95. Find the area of the triangle whose vertices are: $(-2, -3), (3, 2), (-1, -8)$

Watch Video Solution

96. Find the area of the triangle whose vertices are: $(-3, 2), (5, 4), (7, -6)$

Watch Video Solution

97. Find the area of the triangle whose vertices are: $(1, 4), (2, 3), (-5, -3)$

Watch Video Solution

98. Find the area of the triangle whose vertices are: $(3, 1), (4, 3), (-5, 4)$

Watch Video Solution

99. Find the area of the triangle whose vertices are: $(2, 8), (-4, 2), (5, 1)$

Watch Video Solution

100. Find the value of x if the area of triangle is 35 sq. units whose vertices are (x,4),(2,-6),(5,4).

Watch Video Solution

101. Prove that the area of the triangle whose vertices are $(t, t-2), (t+2, t+2) and (t+3, t)$ is independent of t.

Watch Video Solution

102. Find the values of k if area of triangle is 9 sq. units and vertices are:

(-2,0),(0,4)(0,k)`

Watch Video Solution

103. Find the values of k if area of triangle is 4 sq. units and vertices are:

(k,0),(0,2)(4,0)`

Watch Video Solution

104. Examine whether the points are collinear or not: (2,5),(-5,-2),(-1,2)

Watch Video Solution

105. Examine whether the points are collinear or not: (-3,2),(-5,-4),(7,-6)

Watch Video Solution

106. Examine whether the points are collinear or not: (1,5),(2,-4),(3,3)

Watch Video Solution

107. Prove that the points $(a, b+c), (b, c+a) and (c, a+b)$ are collinear.

Watch Video Solution

108. Prove that the points $(a,\ b)$, $(a_1,\ b_1)$ and $(a-a_1,\ b-b_1)$ are collinear if $ab_1 = a_1 b$.

Watch Video Solution

109. Show that the points $(a, 0), (0, b)$ and (x, y) are collinear if `x/a+y/b=1.

Watch Video Solution

110. For what values of k, the points (1,4), (k-2), and (-3,16) are colinear?

Watch Video Solution

111. Find the value of t for which the points (1,-1),(3,-3) and (t,2) lie on the same line (using determinants).

Watch Video Solution

112. Find the equation of the line joining A(1,3) and B (0,0) using determinants and find k if D(k, 0) is a point such that area of triangle ABD is 3sq units.

 Watch Video Solution