MULTIPLE CHOICE QUESTIONS (MCQ'S)

1. A triangle has ______ important elements.
   (a) 6 (b) 4 (c) 12 (d) 5
2. The process of finding the unknown elements is called the ______ of the triangle.
   (a) formed (b) drawing (c) Solution (d) Altitude
3. The law of Cosine where $m\angle A = \alpha$ is in Standard position is ______.
   (a) $b^2 = a^2 + c^2 - 2ac\ Cos\beta$ (b) $a^2 = b^2 + c^2 - 2bcCos\alpha$
   (c) $c^2 = a^2 + b^2 - 2ab\ Cos\gamma$
   (d) $Cos\beta = a^2 + c^2 + b^2 + 2ac$
4. If a, b and c are the sides of a triangle, then R is ______.
   (a) $\frac{abc}{4}$ (b) $\frac{4\Delta}{abc}$ (c) $\frac{abc}{4\Delta}$ (d) $\frac{\Delta}{s}$
5. If the Sides of a triangle are 3,4 and 5 Units, then "S" is ______.
   (a) 4 (b) 12 (c) 5 (d) 6
6. A circle passes through the vertices of a triangle is called ______.
   (a) Ortho-Circle (b) Circum Circle
   (c) In-Circle (d) e-circle
7. The radius of Circum Circle is called Circum radius is denoted by R = ______.
   (a) $\frac{abc}{4\Delta}$ (b) $\frac{abc}{\Delta}$ (c) $\frac{4\Delta}{abc}$ (d) $\frac{\Delta}{s}$
8. What is the Circum-radius if the Sides of the triangle are 6cm, 8cm, 10cm and area $24cm^2$ ______.
   (a) 5cm (b) 2cm (c) 8.5 cm (d) 9cm
9. A Circle touches all the Sides of a triangle is called ______.
   (a) e-Circle (b) In-Circle
   (c) Circum-Circle (d) Ortho Circle
10. The radius of in-circle is called in-radius and is denoted by r = ______.
    (a) $\frac{4\Delta}{abc}$ (b) $\frac{a}{4\Delta}$ (c) $\frac{\Delta}{s}$ (d) $\frac{\Delta}{s-a}$

11. A circle touches one side and two rays of other two sides of a triangle is called _____ or ______.
(a) escribed circle or e – circle
(b) Incircle or e–circle (c) Incircle or circumcircle
(d) Orthocircle or e–circle

12. If α, β and γ are angles of any triangle then $\alpha + \beta + \gamma =$ ______.
(a) 360° (b) 270° (c) 90° (d) 180°

13. An _______ triangle is a three side figure with none of the angles a right angle.
(a) Obtuse (b) Right (c) Oblique (d) Acute

14. A triangle with one angle of measure 90° is called ________ angle triangle.
(a) Obtuse (b) Acute (c) Right (d) Oblique

15. According to law of Cosine, $\cos\alpha =$ _________.
(a) $\frac{b^2 + c^2 - a^2}{2bc}$ (b) $\frac{a^2 + b^2 - c^2}{2bc}$
(c) $\frac{b^2 + a^2 + c^2}{2bc}$ (d) $\frac{a^2 + c^2 - b^2}{2bc}$

16. Area of triangle when measured of all of its three sides is given by
(a) $\Delta = \sqrt{s(s+a)(s+b)(s+c)}$
(b) $\Delta = \sqrt{s(s-a)(s-b)(s-c)}$
(c) $\Delta = \sqrt{s(s-a)}$ (d) $\Delta = \sqrt{s(s-b)}$

17. For an e-circle $r_1 =$ _________.
(a) $\frac{\Delta}{s-a}$ (b) $\frac{\Delta}{s+a}$ (c) $\frac{\Delta}{s-b}$ (d) $\frac{\Delta}{s-c}$

18. for an e–circle $r_2 =$ ________.
(a) $\frac{\Delta}{s}$ (b) $\frac{\Delta}{s-b}$ (c) $\frac{\Delta}{s-a}$ (d) $\frac{\Delta}{s-c}$

19. for an e–circle $r_3 =$ _______.
(a) $\frac{\Delta}{s}$ (b) $\frac{\Delta}{s-b}$ (c) $\frac{\Delta}{s-a}$ (d) $\frac{\Delta}{s-c}$

20. The sine and cosine laws can be applied to any _____.
(a) square (b) Rectangle (c) Triangle (d) Rhombus

21. The angle of ________ is the angle formed by the horizontal and the line of Sight when the object is about the horizontal.
(a) Elevation (b) Depression
(c) Right (d) Acute

22. The angle of _______ is the angle formed by the horizontal and the line of sight when the object is below the horizontal.
(a) Depression (b) Elevation
(c) Right (d) Obtuse

23. When angle of elevation of an object is viewed by an observer the object is ______.
(a) Below (b) Above
(c) At same level (d) None of these

24. A line is revolve in anti-clock wise direction, the angle described will be _______.
(a) Positive (b) Negative
(c) Zero (d) None of these

25. While a pilot flying over an airport the angle made over the airport will be the angle of______.
(a) Depression (b) Elevation
(c) Right (d) None of these

26. In the angle of depression the observer is ______ the object.
(a) Below (b) Above
(c) Behind (d) None of these

27. Angle of elevation and angle of depression are made ______ to each other.
(a) behind (b) Adjacent
(c) Opposite (d) None of these

28. In any triangle, the measures of the sides are proportional to the sines of the measures of the opposite angles, this law is called law of _____.
(a) Cosine (b) tangent
(c) Sine (d) None of these

29. $\frac{a}{\sin\alpha} = \frac{b}{\sin\beta} = \frac{C}{\sin\gamma}$ when a, b, c are lengths of Sides of triangle then this law is called law of _______.
(a) Cosine (b) Sine
(c) tangent (d) None of these

30. $\sin\frac{\alpha}{2} =$ ________.

(a) $\sqrt{\frac{(s-c)(s-a)}{ab}}$ (b) $\sqrt{\frac{(s-b)(s-c)}{bc}}$

(c) $\sqrt{\frac{(s-a)(s-b)}{ab}}$ (d) $\sqrt{\frac{s(s-a)}{abc}}$

31. $\sin\frac{\beta}{2} =$ ________.

(a) $\sqrt{\frac{(s-c)(s-a)}{ab}}$ (b) $\sqrt{\frac{(s-b)(s-c)}{bc}}$

(c) $\sqrt{\frac{(s-c)(s-a)}{ac}}$ (d) $\sqrt{\frac{(s-a)(s-b)}{ab}}$

32. $\sin\frac{\gamma}{2} =$ ________.

(a) $\sqrt{\frac{(s-c)(s-a)}{ab}}$ (b) $\sqrt{\frac{(s-b)(s-c)}{bc}}$

(c) $\sqrt{\frac{(s-c)(s-a)}{ac}}$ (d) $\sqrt{\frac{(s-a)(s-b)}{ab}}$

33. $\cos\frac{\alpha}{2} =$ ________.

(a) $\sqrt{\frac{s(s-b)}{ac}}$ (b) $\sqrt{\frac{s(s-c)}{ab}}$

(c) $\sqrt{\frac{s(s-a)}{bc}}$ (d) $\sqrt{\frac{s(s-a)(s-b)}{abc}}$

34. $\cos\frac{\beta}{2} =$ ________.

(a) $\sqrt{\frac{s(s-a)}{bc}}$ (b) $\sqrt{\frac{s(s-c)}{ab}}$

(c) $\sqrt{\frac{s(s-b)}{ac}}$ (d) $\sqrt{\frac{s(s-a)(s-b)}{abc}}$

35. $\cos\frac{\gamma}{2} =$ ________.

(a) $\sqrt{\frac{s(s-a)}{bc}}$ (b) $\sqrt{\frac{s(s-c)}{ab}}$

(c) $\sqrt{\frac{s(s-b)}{ac}}$ (d) $\sqrt{\frac{s(s-a)(s-b)}{abc}}$

36. $\tan\frac{\alpha}{2} =$ ________.

(a) $\sqrt{\frac{(s-b)(s-c)}{s(s-a)}}$ (b) $\sqrt{\frac{(s-c)(s-a)}{s(s-b)}}$

(c) $\sqrt{\frac{(s-a)(s-b)}{s(s-c)}}$ (d) $\sqrt{s(s-a)(s-b)(s-c)}$

37. $\tan\frac{\beta}{2} =$ ________.

(a) $\sqrt{\frac{(s-b)(s-c)}{s(s-a)}}$ (b) $\sqrt{\frac{(s-c)(s-a)}{s(s-b)}}$

(c) $\sqrt{\frac{(s-a)(s-b)}{s(s-c)}}$ (d) $\sqrt{s(s-a)(s-b)(s-c)}$

38. $\tan\frac{\gamma}{2} =$ ________.

(a) $\sqrt{\frac{(s-b)(s-c)}{s(s-a)}}$ (b) $\sqrt{\frac{(s-c)(s-a)}{s(s-b)}}$

(c) $\sqrt{\frac{(s-a)(s-b)}{s(s-c)}}$ (d) $\sqrt{s(s-a)(s-b)(s-c)}$

39. Area of triangle when measure of two sides and there included angle "α" is given by ____.

(a) $\Delta = \frac{1}{2}ab\sin\gamma$ (b) $\Delta = \frac{1}{2}ac\sin\beta$

(c) $\Delta = \frac{1}{2}bc\sin\alpha$ (d) None of these

40. Area of triangle when measure of two sides and their included angle "β" is given by ______.

(a) $\Delta = \frac{1}{2}ab\sin\gamma$ (b) $\Delta = \frac{1}{2}ac\sin\beta$

(c) $\Delta = \frac{1}{2}bc\sin\alpha$ (d) None of these

41. Area of triangle when measure of two sides and their included angle "γ" is givne by ________.

(a) $\Delta = \frac{1}{2}ab\sin\gamma$ (b) $\Delta = \frac{1}{2}ac\sin\beta$

(c) $\Delta = \frac{1}{2}bc\sin\alpha$ (d) None of these

42. for an equilateral ΔABC = ______.
(a) $R : r : r_1 : 3 : 1 : 2$ (b) $r_1 : R : r = 3 : 2 : 1$
(c) $r : R : r_1 = 2 : 3 : 1$ (d) $r : r_1 : R = 1 : 2 : 3$

43. The Circle touches all the Sides of the triangle then Centre of Circle denoted by ______.
(a) O (b) C (c) G (d) I

44. The Centre of e–circle opposite to the vertex "A" denoted by ______.
(a) I (b) I_1 (c) I_2 (d) I_3

45. The centre of e–circle opposite to the vertex "B" denoted by ______.
(a) I (b) I_1 (c) I_2 (d) I_3

46. The centre of e–circle opposite to the vertex "C" denoted by ______.
(a) I (b) I_1 (c) I_2 (d) I_3

47. a, b, c, α, β and γ having the usual meaning, then circum radius R = ______.
(a) $\frac{a}{2\sin\alpha}$ (b) $\frac{b}{2\sin\beta}$
(c) $\frac{c}{2\sin\gamma}$ (d) All of these

48. If the measure of the Sides of a triangle are 17, 10, 21, Δ = 84 and S = 24 then R = ______.
(a) 10.625 (b) 3.5 (c) 12 (d) 6

49. If the measures of the sides of a triangle are 17, 10, 21, Δ = 84, and S = 24 then r = ______.
(a) 10.625 (b) 3.5 (c) 12 (d) 6

50. If the measures of the sides of triangle are 17, 10, 21, Δ = 84 and S = 24 then r_1 = ______.
(a) 10.625 (b) 3.5 (c) 12 (d) 6

51. If the measures of the Sides of triangle are 17, 10, 21, Δ = 84, and S = 24 then r_2 = ______.
(a) 10.625 (b) 3.5 (b) 12 (d) 6

52. If the measures of the Sides of triangle are 17, 10, 21 Δ = 84 and S = 24 then r_3 = ______.
(a) 3.5 (b) 12 (c) 6 (d) 28

53. $\frac{1}{ab}+\frac{1}{ac}+\frac{1}{bc}$ = ______.
(a) $\frac{2s}{abc}$ (b) $\frac{s}{2abc}$
(c) $\frac{s}{abc}$ (d) None of these

54. $r \cdot r_1 \cdot r_2 \cdot r_3$ = ______.
(a) Δ (b) Δ^2 (c) Δ^3 (d) Δ^4

55. $\frac{r_1 r_2 r_3}{r}$ = ______.
(a) s (b) $\sqrt{s}$ (c) s^2 (d) s^3

56. $\sqrt{r r_1 r_2 r_3}$ = ______.
(a) Δ (b) Δ (c) $\sqrt{\Delta}$ (d) Δ^4

57. $\frac{1}{r_1}+\frac{1}{r_2}+\frac{1}{r_3}$ = ______.
(a) $\frac{1}{R}$ (b) $\frac{1}{S}$ (c) $\frac{1}{r_1}$ (d) $\frac{1}{r}$

58. $\frac{a}{2\sin\alpha}=\frac{b}{2\sin\beta}=\frac{c}{2\sin\gamma}$
(a) r (b) r_1 (c) r_2 (d) R

59. $(r_1 - r)(r_2 - r)(r_3 - r)$ = ______.
(a) $4\Delta^2 R$ (b) $4\Delta R^2$ (c) $4\Delta R$ (d) $4rR$

60. If a = b = c = xcm then R = ______ cm.
(a) $\frac{\sqrt{3x}}{6}$ (b) $\frac{\sqrt{3}\,x}{3}$ (c) $\frac{\sqrt{3x}}{2}$ (d) $\sqrt{3}$

61. If a = b = c = xcm then r = ______ cm
(a) $\frac{x\sqrt{3}}{3}$ (b) $\frac{x\sqrt{3}}{2}$ (c) $\frac{x\sqrt{3}}{6}$ (d) $\frac{\sqrt{3}}{2}$

62. If a = b = c = xcm then r_1 = ______ cm
(a) $\frac{x\sqrt{3}}{6}$ (b) $\frac{x\sqrt{3}}{3}$ (c) $\frac{\sqrt{3}}{2}$ (d) $\frac{x\sqrt{3}}{2}$

63. If a = b = c = xcm then Area will be Δ = ______ cm^2.
(a) $\frac{1}{\sqrt{2}}$ (b) $\frac{x^2}{2}$ (c) $\frac{x\sqrt{3}}{6}$ (d) $\frac{\sqrt{3}\,x^2}{2}$

64. $\frac{r}{s-a}$ = ______.
(a) $\tan\frac{\beta}{2}$ (b) $\tan\frac{\alpha}{2}$
(c) $\tan\frac{\gamma}{2}$ (d) None of these

65. $\frac{r}{s-b} =$ ______.
(a) $\tan\frac{\beta}{2}$
(b) $\tan\frac{\gamma}{2}$
(c) $\tan\frac{\alpha}{2}$
(d) None of these

66. $\frac{r}{s-c} =$ ______.
(a) $\tan\frac{\beta}{2}$
(b) $\tan\frac{\gamma}{2}$
(c) $\tan\frac{\alpha}{2}$
(d) None of these

67. law of sine was given by a muslim mathematican ______.
(a) Al – Kindi
(b) Bin Ali – Sina
(c) Al – Razi
(d) Al – Beruni

68. $1 - \cos\alpha =$ ______.
(a) $2\cos^2\frac{\alpha}{2}$ (b) $2\tan^2\frac{\alpha}{2}$ (c) $2\sin^2\frac{\alpha}{2}$ (d) $2\operatorname{cosec}^2\frac{\alpha}{2}$

69. $1 + \cos\alpha =$ ______.
(a) $2\sin^2\frac{\alpha}{2}$ (b) $2\sec^2\frac{\alpha}{2}$ (c) $2\tan^2\frac{\alpha}{2}$ (d) $2\cos^2\frac{\alpha}{2}$

70. Area of triangle = ______.
(a) $\frac{1}{2} \times$ base $\times$ height
(b) $\frac{1}{2} +$ base + height
(c) $\frac{1}{2} -$ base – height
(d) $\frac{1}{2} \times$ base $\div$ height

71. $\blacktriangle = \frac{1}{2}ab$ ______.
(a) $\sin\alpha$ (b) $\sin\beta$ (c) $\sin^2\alpha$ (d) $\sin\gamma$

72. $\blacktriangle = \frac{1}{2}ac$ ______.
(a) $\sin\beta$ (b) $\sin\alpha$ (c) $\sin\gamma$ (d) $\sin^2\alpha$

73. $\blacktriangle = \frac{1}{2}bc$ ______.
(a) $\sin\beta$ (b) $\sin\alpha$ (c) $\sin\gamma$ (d) $\sin^2\alpha$

74. $\blacktriangle = \frac{1}{2}c^2$ ______.
(a) $\frac{\sin\gamma}{\sin\alpha\sin\beta}$
(b) $\frac{\sin\alpha\sin\gamma}{\sin\beta}$
(c) $\frac{\sin\alpha\sin\beta}{\sin\gamma}$
(d) $\frac{\sin\gamma\sin\beta}{\sin\alpha}$

75. $\blacktriangle = \frac{1}{2}b^2$ ______.
(a) $\frac{\sin\gamma\sin\beta}{\sin\alpha}$
(b) $\frac{\sin\alpha\sin\beta}{\sin\gamma}$
(c) $\frac{\sin\alpha}{\sin\gamma\sin\beta}$
(d) $\frac{\sin\alpha\sin\gamma}{\sin\beta}$

76. $\blacktriangle = \frac{1}{2}a^2$ ______
(a) $\frac{\sin\gamma\sin\beta}{\sin\alpha}$
(b) $\frac{\sin\alpha\sin\gamma}{\sin\beta}$
(c) $\frac{\sin\alpha\sin\beta}{\sin\gamma}$
(d) $\frac{\sin\alpha}{\sin\gamma\sin\beta}$

77. $2\sin^2\frac{\alpha}{2} = \frac{(a+b-c)(\text{---------})}{2bc}$
(a) $(a-b+c)$
(b) $(a+b+c)$
(c) $(a-b-c)$
(d) $(-a+b+c)$

78. $2\cos^2\frac{\alpha}{2} = \frac{(\text{---------})(b+c-a)}{2bc}$
(a) $(a-b+c)$
(b) $(a+b+c)$
(c) $(a+b-c)$
(d) $(b-c-a)$

79. $\tan^2\frac{\alpha}{2} = \frac{(a+b-c)(a-b+c)}{(\text{---------})(\text{---------})}$
(a) $(a-b-c)(a-b+c)$
(b) $(a+b+c)(a-b-c)$
(c) $(a+b+c)(b+c-a)$
(d) $(a+b-c)(a+b-c)$

80. According to law of tangent $\frac{\tan\frac{\alpha-\beta}{2}}{\tan\frac{\alpha+\beta}{2}} =$ ______.
(a) $\frac{b-c}{b+c}$ (b) $\frac{c-a}{c+a}$ (c) $\frac{a-b}{a+b}$ (d) $\frac{a+b}{a-b}$

81. According to law of tangent $\dfrac{\tan\frac{\beta-\gamma}{2}}{\tan\frac{\beta+\gamma}{2}}$ = ______.

(a) $\frac{a-b}{a+b}$ (b) $\frac{c-a}{c+a}$ (c) $\frac{b+c}{b-c}$ (d) $\frac{b-c}{b+c}$

82. According to law of tangent $\dfrac{\tan\frac{\gamma-\alpha}{2}}{\tan\frac{\gamma+\alpha}{2}}$ = ______.

(a) $\frac{c-a}{c+a}$ (b) $\frac{a-b}{a+b}$ (c) $\frac{b-c}{b+c}$ (d) $\frac{c+a}{c-a}$

83. law of tangent $\frac{a-b}{a+b}$ = ______.

(a) $\dfrac{\tan\frac{\beta-\gamma}{2}}{\tan\frac{\beta+\gamma}{2}}$ (b) $\dfrac{\tan\frac{\alpha-\beta}{2}}{\tan\frac{\alpha+\beta}{2}}$ (c) $\dfrac{\tan\frac{\gamma-\alpha}{2}}{\tan\frac{\gamma+\alpha}{2}}$ (d) $\dfrac{\tan\frac{\alpha+\beta}{2}}{\tan\frac{\alpha-\beta}{2}}$

84. law of tangent $\frac{b-c}{b+c}$ = ______.

(a) $\dfrac{\tan\frac{\alpha-\beta}{2}}{\tan\frac{\alpha+\beta}{2}}$ (b) $\dfrac{\tan\frac{\gamma-\alpha}{2}}{\tan\frac{\gamma+\alpha}{2}}$ (c) $\dfrac{\tan\frac{\beta-\gamma}{2}}{\tan\frac{\beta+\gamma}{2}}$ (d) $\dfrac{\tan\frac{\beta+\gamma}{2}}{\tan\frac{\beta-\gamma}{2}}$

85. law of tangent $\frac{c-a}{c+a}$ = ______.

(a) $\dfrac{\tan\frac{\alpha-\beta}{2}}{\tan\frac{\alpha+\beta}{2}}$ (b) $\dfrac{\tan\frac{\beta-\gamma}{2}}{\tan\frac{\beta+\gamma}{2}}$ (c) $\dfrac{\tan\frac{\gamma+a}{2}}{\tan\frac{\gamma-a}{2}}$ (d) $\dfrac{\tan\frac{\gamma-\alpha}{2}}{\tan\frac{\gamma+\alpha}{2}}$

86. If $r^2 = \frac{(s-a)(s-b)(s-c)}{s}$ then $\tan\frac{\alpha}{2}$ = ______.

(a) $\frac{r}{s-b}$ (b) $\frac{r}{s-c}$ (c) $\frac{r}{s-a}$ (d) $\frac{r}{s+a}$

87. According to law of Sine, $\frac{\text{Sin}\alpha}{\text{Sin}\beta}$ = ______.

(a) $\frac{a}{b}$ (b) $\frac{b}{a}$ (c) $\frac{a}{c}$ (d) $\frac{b}{c}$

88. According to law of Sine $\frac{a}{b}$ = ______.

(a) $\frac{\text{Sin}\beta}{\text{Sin}\gamma}$ (b) $\frac{\text{Sin}\alpha}{\text{Sin}\beta}$ (c) $\frac{\text{Sin}\beta}{\text{Sin}\alpha}$ (d) $\frac{\text{Sin}\alpha}{\text{Sin}\gamma}$

89. c^2 = ______.

(a) $a^2 - b^2 + 2ab\text{Cos}\gamma$ (b) $a^2 + b^2 - 2ab\text{Cos}\gamma$
(c) $a^2 + b^2 + 2ab\text{Cos}\gamma$ (d) $b^2 + c^2 - 2ab\text{Cos}\alpha$

90. a^2 = ______.

(a) $b^2 - c^2 + 2bc\text{Cos}\alpha$ (b) $b^2 - c^2 + 2bc\text{Cos}\alpha$
(c) $b^2 + c^2 - 2bc\text{Cos}\alpha$ (d) $a^2 - c^2 - 2ac\text{Cos}\beta$

91. b^2 = ______.

(a) $a^2 + c^2 + 2ac\text{Cos}\beta$ (b) $a^2 - c^2 - 2ac\text{Cos}\beta$
(c) $a^2 + c^2 - 2ab\text{Cos}\gamma$ (d) $a^2 + c^2 - 2ac\text{Cos}\beta$

92. According to law of Cosine Cos β = ______.

(a) $\frac{b^2+c^2-a^2}{2bc}$ (b) $\frac{a^2+b^2-c^2}{2ab}$
(c) $\frac{a^2+c^2+b^2}{2ac}$ (d) $\frac{a^2+c^2-b^2}{2ac}$

93. According to law of Cosine Cos γ = ______.

(a) $\frac{a^2+b^2-c^2}{2ab}$ (b) $\frac{b^2+c^2-a^2}{2bc}$
(c) $\frac{a^2+c^2-b^2}{2ac}$ (d) $\frac{a^2+c^2+b^2}{2ac}$

94. $(r_1 + r_2)\tan\frac{\beta}{2}$ = ______.

(a) C (b) Δ (c) R (d) a

95. $(r_1 + r_2)\tan\frac{\gamma}{2}$ = ______.

(a) C (b) Δ (c) R (d) b

96. $(r_2 + r_3)\tan\frac{\alpha}{2}$ = ______.

(a) C (b) Δ (d) R (d) a

97. $r_1r_2 + r_2r_3 + r_3r_1$ = ______.

(a) r_1^2 (b) Δ^2 (d) R^2 (d) S^2

98. $r_1 + r_2 + r_3 - r$ = ______.

(a) $4r_1$ (b) 4Δ (d) 4S (d) 4R

99. $r_1 r_2 r_3$ = ______.

(a) Rr^2 (b) rR^2. (c) rs^2 (d) Rs^2

100. A tree of 8m high has the shadow 6m in length the angle of elevation of the Sun at that moment is ______.
(a) 0 (b) 90° (c) 53° 7′ (d) 180°

101 If a, b, c are the Sides of the triangle ABC, then S = ______.
(a) $\frac{a+b+c}{3}$ (b) $\frac{a+b+c}{4}$ (c) $\frac{a+b+c}{2}$ (d) a + b + c

102. The angles of a triangles are in the ratio 2 : 3 : 4 what is the largest angle of the triangle?
(a) 90° (b) 80° (c) 100° (d) 180°

103. If "r" is the radius of the circle and "R" is radius of circumcircle of a ΔABC then ______.
(a) r = 2R (b) R = 2r (c) r = R (d) r > R

104. In order to solve a right triangle we have to find the measures of ______.
(a) two acute angles (b) two sides
(c) an angles (d) None of these

105. $\frac{1}{2rR} = \frac{1}{ab} + \frac{1}{bc} +$ ________.
(a) $\frac{1}{ac}$ (b) $\frac{1}{a^2}$ (c) $\frac{1}{c^2}$ (d) $\frac{1}{b^2}$

106. $r_1 =$ ______.
(a) $S\tan\frac{\gamma}{2}$ (b) $S\tan\frac{\beta}{2}$
(c) $S\tan\frac{\alpha}{2}$ (d) $S\tan\alpha$

107. $r_2 =$ _______.
(a) $S\tan\frac{\gamma}{2}$ (b) $S\tan\frac{\beta}{2}$ (c) $S\tan\frac{\alpha}{2}$ (d) $S\tan\alpha$

108. $r_3 =$ _______.
(a) $S\tan\frac{\gamma}{2}$ (b) $S\tan\frac{\beta}{2}$ (c) $S\tan\frac{\alpha}{2}$ (d) $S\tan\alpha$

109. With usual notation, the value of a − b + c is _____.
(a) s + b (b) s − b (c) 2s − b (d) 2 (s − b)

110. The greatest angle is opposite to ________.
(a) Smallest Side (b) greatest Side
(c) Same Side (d) right Side

111. $\text{Cot}\frac{\alpha}{2} =$ ______.
(a) $\sqrt{\frac{s(s-a)}{(s-b)(s-a)}}$ (b) $\sqrt{\frac{s(s-b)}{(s-c)(s-a)}}$
(c) $\sqrt{\frac{s(s-c)}{(s-a)(s-b)}}$ (d) $\sqrt{\frac{(s-b)(s-c)}{bc}}$

112. $\text{Cot}\frac{\beta}{2} =$ _______.
(a) $\sqrt{\frac{s(s-a)}{(s-b)(s-c)}}$ (b) $\sqrt{\frac{s(s-b)}{(s-c)(s-a)}}$
(c) $\sqrt{\frac{s(s-c)}{(s-a)(s-b)}}$ (d) $\sqrt{\frac{(s-b)(s-c)}{bc}}$

113. e–radius corresponding to ∠A = ______.
(a) $\frac{\Delta}{s}$ (b) $\frac{\Delta}{s-a}$ (c) $\frac{\Delta}{s-b}$ (d) $\frac{\Delta}{s-c}$

114. e – radius corresponding to ∠B = _____.
(a) $\frac{\Delta}{s}$ (b) $\frac{\Delta}{s-a}$ (c) $\frac{\Delta}{s-b}$ (d) $\frac{\Delta}{s-c}$

115. e – radius corresponding to ∠C is ______.
(a) $\frac{\Delta}{s}$ (b) $\frac{\Delta}{s-a}$ (c) $\frac{\Delta}{s-b}$ (d) $\frac{\Delta}{s-c}$

116. By Hero's formula Δ = _____.
(a) $s(s-a)(s-b)(s-c)$ (b) $\sqrt{s(s-a)(s-b)(s-c)}$
(c) $s\sqrt{(s-a)(s-b)(s-c)}$ (d) $\frac{1}{\sqrt{s(s-a)(s-b)(s-c)}}$

117. Hero's formula is used to Calculate _______.
(a) area of Δ (b) Sides of Δ
(c) angles of Δ (d) None of these

118. for a triangle ABC, the true Statement is _____.
(a) $(\overline{AC})^2 = (\overline{AB})^2 + (\overline{AC})^2$
(b) AC = AB + BC (c) AC < AB + BC
(d) None of the above

119. In a triangle, the perpendicular from vertex to the base bisect the base. The triangle is_______.
(a) Isosceles (b) Right angled
(c) Equilateral (d) None of these

120. The measures of three angles of a triangle are in the ratio 1 : 2 : 3 then, the triangle is ______.
(a) Right angled (b) Equilateral
(c) Isosceles (d) None of these

121. The Circumcentre of a right angled triangle lies ______.
(a) in the interior of the triangle
(b) in the exterior of the triangle
(c) at the mid point of the hypotenuse
(d) None of these

122. The mid point of the Sides of a triangle along with any of the vertices as the fourth point make a ______.
(a) parallelogram (b) Rhombus
(c) Rectangle (d) None of these

123. Half the product of measure of the base and measure of the altitude gives ______.
(a) Area of a Circle (b) Area of a Triangle
(c) Area of Rectangle (d) None of these

124. The point in the plane of a triangle which is at equal perpendicular distance from the sides of the triangle is ______.
(a) In – Centre (b) Circum – Centre
(c) Orthocentre (d) None of these

125. The point of triangle at which the right bisectors of it's sides meet is called ______.
(a) Incentre (b) Circumcentre
(c) Ex – Centre (d) None of these

126. The point of triangle at which the internal bisectors of angle of triangle meet is called ______.
(a) In centre (b) Circum – centre
(c) Ex – Centre (d) None of these

127. The Circumcentre of a triangle is determined by the ______.
(a) Altitudes (b) Medians
(c) Perpendicular bisectors of the Sides
(d) None of these

128. If the three altitudes of a triangle are equal then the triangle is ______.
(a) equilateral (b) Isosceles
(c) Right angled (d) None of these

Answers

1.	a	2.	c	3.	b	4.	c	5.	d
6.	b	7.	a	8.	a	9.	b	10.	c
11.	a	12.	d	13.	c	14.	c	15.	a
16.	b	17.	a	18.	b	19.	d	20.	c
21.	a	22.	a	23.	b	24.	a	25.	a
26.	a	27.	c	28.	c	29.	b	30.	b
31.	c	32.	d	33.	c	34.	c	35.	b
36.	a	37.	b	38.	c	39.	c	40.	b
41.	a	42.	b	43.	d	44.	b	45.	c
46.	d	47.	d	48.	a	49.	b	50.	c
51.	d	52.	d	53.	a	54.	b	55.	c
56.	b	57.	d	58.	d	59.	a	60.	b
61.	c	62.	d	63.	d	64.	b	65.	a
66.	b	67.	d	68.	c	69.	d	70.	a
71.	d	72.	a	73.	b	74.	c	75.	d
76.	a	77.	a	78.	b	79.	c	80.	c
81.	d	82.	a	83.	b	84.	c	85.	d
86.	c	87.	a	88.	b	89.	b	90.	c
91.	d	92.	d	93.	a	94.	a	95.	d
96.	d	97.	d	98.	d	99.	c	100.	c
101.	c	102.	b	103.	b	104.	a	105.	a
106.	c	107.	b	108.	a	109.	d	110.	b
111.	a	112.	b	113.	b	114.	c	115.	d
116.	b	117.	a	118.	c	119.	a	120.	b
121.	c	122.	a	123.	b	124.	a	125.	a
126.	a	127.	c	128.	a				