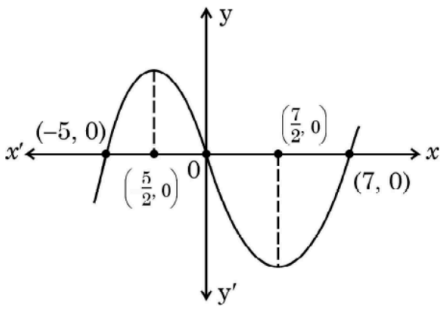
Q1. If $\triangle ABC \sim \triangle DEF$ such that AB = 1.2cm and DE = 1.4cm, the ratio of the areas of $\triangle ABC$ and $\triangle DEF$ is: **1 Mark**

A 49 : 36 **B** 6 : 7 **C** 7 : 6 **D** 36 : 49

Q2. If the coordinates of one end of a diameter of a circle are (2, 3) and the coordinates of its centre are (–2, 5), then the coordinates of the other end of the diameter are: **1 Mark**

A (-6, 7) **B** (6, -7) **C** (6, 7) **D** (-6, -7)

Q3. The graph of y = p(x) is given in the adjoining figure. Zeroes of the polynomial p(x) are: **1 Mark**



A $-5, 7$ **B** $\frac{-5}{2}, \frac{-7}{2}$

C $-5, 0, 7$ **D** $-5, \frac{-5}{2}, \frac{-7}{2}, 7$

Q4. The quadratic equation $x^2 - 4x + k = 0$ has distinct real roots if: **1 Mark**

A k = 4 **B** k > 4 **C** k = 16 **D** k < 4

Q5. The angle of depression of a car, standing on the ground, from the top of a 75 m high tower, is 30°. The distance of the car from the base of the tower (in m.) is: **1 Mark**

A $25\sqrt{3}$ **B** $50\sqrt{3}$ **C** $75\sqrt{3}$ **D** 150

Q6. If the difference between the circumference and the radius of a circle is 37 cm, then using $\pi = \frac{22}{7}$, the circumference (in cm) of the circle is: **1 Mark**

A 154 **B** 14 **C** 44 **D** 7

Q7. A sphere of diameter 18 cm is dropped into a cylindrical vessel of diameter 36 cm, partly filled with water. If the sphere is completely submerged, then the water level rises (in cm) by **1 Mark**

A 3 **B** 4 **C** 5 **D** 6

Q8. In Figure 1, O is the centre of a circle, PQ is a chord and PT is the tangent at P. If $\angle POQ = 70^\circ$, then $\angle TPQ$ is equal to: **1 Mark**

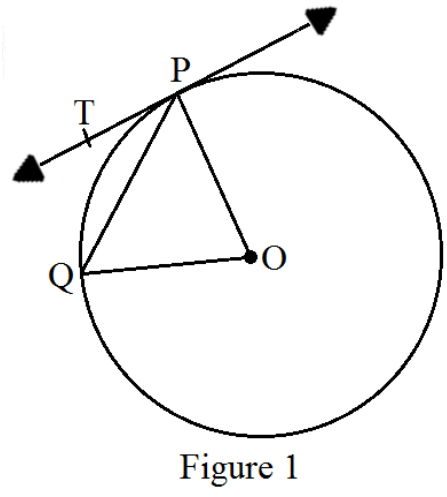
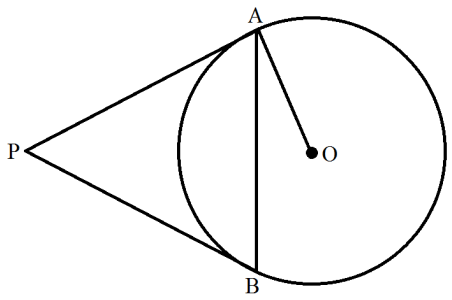


Figure 1

A 55° **B** 70° **C** 45° **D** 35°

Q9. In Fig. 2, PA and PB are tangents to the circle with centre O. If $\angle APB = 60^\circ$ then $\angle OAB$ is: **1 Mark**



A 30^o **B** 60^o **C** 90^o **D** 15^o

Q10. The point P which divides the line segment joining the points A(2,- 5) and B(5, 2) in the ratio 2 : 3 lies in the quadrant: **1 Mark**

A I **B** II **C** III **D** IV

Q11. The value of x for which 2x, (x + 10) and (3x + 2) are the three consecutive terms of an AP, is: **1 Mark**

A 6 **B** -6 **C** 18 **D** -18

Q12. A card is drawn from a well-shuffled deck of 52 playing cards. The probability that the card will not be an ace is: **1 Mark**

A $\frac{1}{13}$ **B** $\frac{1}{4}$ **C** $\frac{12}{13}$ **D** $\frac{3}{4}$

Q13. The degree of polynomial having zeroes -3 and 4 only is: **1 Mark**

A 2 **B** 1 **C** More than 3 **D** 3

Q14. If p - 1, p + 1 and 2p + 3 are in A.P., then the value of p is: **1 Mark**

A -2 **B** 4 **C** 0 **D** 2

Q15. n^{th} term of an A.P. is 7n + 4. The common difference is: **1 Mark**

A 7n **B** 4 **C** 7 **D** 1

Q16. If the radius of the base of a right circular cylinder is halved, keeping the height the same, then the ratio of the volume of the cylinder thus obtained to the volume of original cylinder is: **1 Mark**

A 1 : 2 **B** 2 : 1 **C** 1 : 4 **D** 4 : 1

Q17. In what ratio, does x-axis divide the line segment joining the points A(3, 6) and B(-12, -3)? **1 Mark**

A 1 : 2 **B** 1 : 4 **C** 4 : 1 **D** 2 : 1

Q18. In Question an Assertion (A) statement is followed by a statement of Reason (R). Select the correct option out of the following: **1 Mark**

Assertion (A): Point P(0, 2) is the point of intersection of y-axis with the line 3x + 2y = 4.

Reason (R): The distance of point P(0, 2) from x-axis is 2 units.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

B Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

C Assertion (A) is true but Reason (R) is false.

D Assertion (A) is false but Reason (R) is true.

Q19. In Figure, from an external point P, two tangents PQ and PR are drawn to a circle of radius 4cm with centre O. If $\angle \mathrm{QPR} = 90^\circ$, then length of PQ is: **1 Mark**

A $3\mathrm{cm}$ **B** $4\mathrm{cm}$ **C** $2\mathrm{cm}$ **D** $2\sqrt{2}\mathrm{cm}$

Q20. If the point P(k, 0) divides the line segment joining the points A(2, -2) and B(-7, 4) in the ratio 1 : 2, then the value of k is: **1 Mark**

A 1 **B** 2 **C** -2 **D** -1

Q21. If the roots of equation $\mathrm{ax}^2 + \mathrm{bx} + \mathrm{c} = 0, \mathrm{a} \neq 0$ are real and equal, then are real and equal, then which of the following relation is true? **1 Mark**

A $a = \frac{b^2}{c}$ **B** $\mathrm{b}^2 = \mathrm{ac}$

C $\mathrm{ac} = \frac{b^2}{4}$ **D** $\mathrm{c} = \frac{b^2}{a}$

Q22. The distance between the points (m, - n) and (-m, n) is: **1 Mark**

A $\sqrt{m^2+n^2}$ **B** $m+n$
C $2\sqrt{m^2+n^2}$ **D** $\sqrt{2m^2+n^2}$

Q23. The angle of depression of a car parked on the road from the top of a 150m high tower is 30°. The distance of the car from the tower (in metres) is: **1 Mark**

A $50\sqrt{3}$ **B** $150\sqrt{3}$ **C** $150\sqrt{2}$ **D** 75

Q24. If $\sin A = \frac{2}{3}$, then value of cotA is: **1 Mark**

A $\frac{\sqrt{5}}{2}$ **B** $\frac{3}{2}$ **C** $\frac{5}{4}$ **D** $\frac{2}{3}$

Q25. If the sum of zeroes of the polynomial $p(x) = 2x^2 - k\sqrt{2}x + 1$ is $\sqrt{2}$, then value of & is: **1 Mark**

A $\sqrt{2}$ **B** 2 **C** $2\sqrt{2}$ **D** $\frac{1}{2}$

Q26. In a right triangle ABC, right-angled at B, BC = 12cm and AB = 5 cm. The radius of the circle inscribed in the triangle (in cm) is: **1 Mark**

A 4 **B** 3 **C** 2 **D** 1

Q27. If the points A(x, 2), B(-3, -4) and C(7, -5) are collinear, then the value of x is: **1 Mark**

A -63 **B** 63 **C** 60 **D** -60

Q28. The pair of linear equations. **1 Mark**
$\frac{3x}{2} + \frac{5y}{3} = 7$ and $9x + 10y = 14$ is:

A Consistent. **B** Inconsistent.
C Consistent with one solution. **D** Consistent with many solutions.

Q29. If α, β are the zerose of a polynomial p(x) = x^2 + x - 1, then, $\frac{1}{\alpha} + \frac{1}{\beta}$ equals to: **1 Mark**

A 1 **B** 2 **C** -1 **D** $\frac{-1}{2}$

Q30. In an A.P., if the first term a = 7, nth term a_n = 84 and the sum of first n terms $s_n = \frac{2093}{2}$, then n is equal to: **1 Mark**

A 22 **B** 24 **C** 23 **D** 26

Q31. In a survey, it is found that every fifth person has a vehicle. The probability of a person NOT having a vehicle, is: **1 Mark**

A $\frac{1}{5}$ **B** 5% **C** $\frac{4}{5}$ **D** 95%

Q32. The value(s) of k for which the quadratic equation $2x^2$ + kx + 2 = 0 has equal roots, is: **1 Mark**

A 4 **B** ± 4 **C** -4 **D** 0

Q33. The length of shadow of a tower on the plane ground is $\sqrt{3}$ times the height of the tower.The angle of elevation of sun is: **1 Mark**

A 45° **B** 30° **C** 60° **D** 90°

Q34. Which of the following can not be the probability an event? **1 Mark**

A 1.5 **B** $\frac{3}{5}$ **C** 25% **D** 0.3

Q35. The co-ordinates of the point which is reflection of point (–3, 5) in x-axis are. **1 Mark**

A (3, 5) **B** (3, –5) **C** (–3, –5) **D** (–3, 5)

Q36. A solid right circular cone is cut into two parts at the middle of its height by a plane parallel to its base. The ratio of the volume of the smaller cone to the whole cone is: **1 Mark**

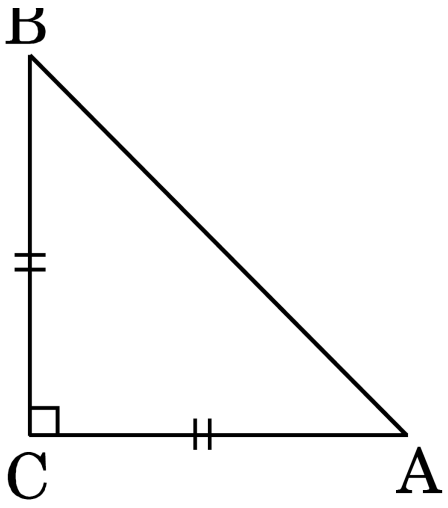
A 1 : 2 **B** 1 : 4 **C** 1 : 6 **D** 1 : 8

Q37. Two dice are rolled together. The probability of getting sum of numbers on the two dice as 2, 3 or 5, is: **1 Mark**

A $\frac{7}{36}$ **B** $\frac{11}{36}$ **C** $\frac{5}{36}$ **D** $\frac{4}{9}$

Q38. In Figure, $\triangle ABC$ is an isosceles triangle, right-angled at C. Therefore. **1 Mark**

D



A $AB^2 = 2AC^2$ **B** $BC^2 = 2AB^2$ **C** $AC^2 = 2AB^2$

Q39. In Figure 2, AB and AC are tangents to the circle with centre O such that $\angle BAC = 40^\circ$. Then $\angle BOC$ is equal to: **1 Mark**

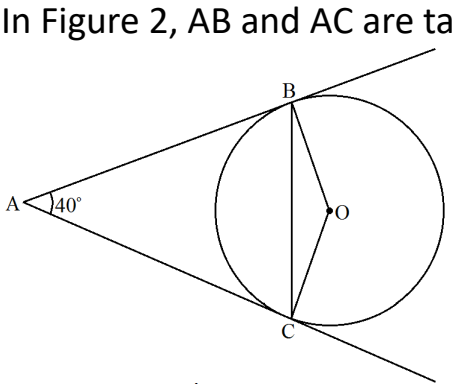


Figure 2

A 40^o **B** 50^o **C** 140^o **D** 150^o

Q40. Two circles touch each other externally at P. AB is a common tangent to the circles touching them at A and B. The value of $\angle APB$ is: **1 Mark**

A 30° **B** 45° **C** 60° **D** 90°

Q41. If α, β are the zeroes of the polynomial $6x^2 - 5x - 4$, then $\frac{1}{\alpha} + \frac{1}{\beta}$ is equal to: **1 Mark**

A $\frac{5}{4}$ **B** $-\frac{5}{4}$ **C** $\frac{4}{5}$ **D** $\frac{5}{24}$

Q42. If $\cos(\alpha + \beta) = 0$, then value of $\cos\left(\frac{\alpha+\beta}{2}\right)$ is equal to: **1 Mark**

A $\frac{1}{\sqrt{2}}$ **B** $\frac{1}{2}$ **C** 0 **D** $\sqrt{2}$

Q43. The roots of the equation $x^2 + x - p(p + 1) = 0$, where p is a constant, are: **1 Mark**

A p, p + 1 **B** -p, p + 1 **C** p, - (p + 1) **D** −p, - (p + 1)

Q44. Which of the following is a quadratic polynomial with zeroes $\frac{5}{3}$ and 0? **1 Mark**

A $3x(3x - 5)$ **B** $3x(x - 5)$

C $x^2 - \frac{5}{3}$ **D** $\frac{5}{3}x^2$

Q45. If $2\tan A = 3$, then the value of $\frac{4\sin A + 3\cos A}{4\sin A - 3\cos A}$ is: **1 Mark**

A $\frac{7}{\sqrt{13}}$ **B** $\frac{1}{\sqrt{13}}$ **C** 3 **D** Does not exist

Q46. **Directions:** In a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option. **1 Mark**
Assertion (A): The tangents drawn at the end points of a diameter of a circle, are parallel.
Reason (R): Diameter of a circle is the longest chord.

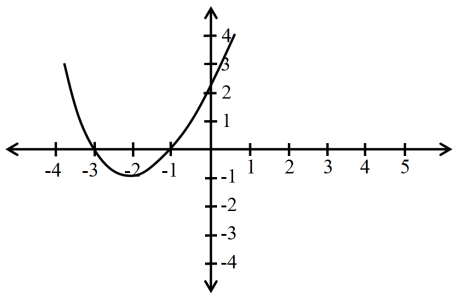
A Both, Assertion (A) and Reason (R) are true and Reason (R) is correct explanation of Assertion (A).

B Both, Assertion (A) and Reason (R) are true but Reason (R) is not correct explanation for Assertion (A).

C Assertion (A) is true but Reason (R) is false.

D Assertion (A) is false but Reason (R) is true.

Q47. In fig. the graph of the polynomial p(x) is given. The number of zeroes of the polynomial is: **1 Mark**



A 1 **B** 2 **C** 3 **D** 0

Q48. In Fig.2, a circle with centre O is inscribed in a quadrilateral ABCD such that, it touches the sides BC, AB, AD and CD at points P, Q, R and S respectively, If AB = 29cm, AD = 23cm, $\angle B = 90^\circ$ and DS = 5cm, then the radius of the circle (in cm.) is: **1 Mark**

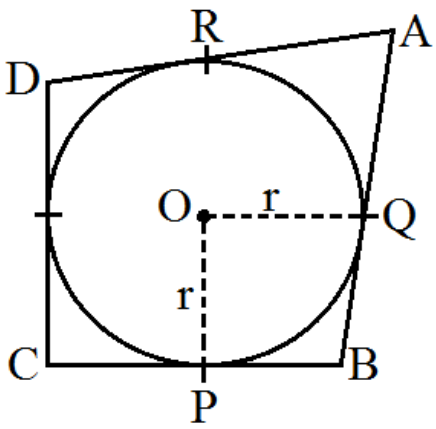


Fig. 2

A 11 **B** 18 **C** 6 **D** 15

Q49. The area of metal sheet required to make a closed hollow cylinder of height 2.4m and base radius 0.7m, is. **1 Mark**

A 10.56m^2 **B** 13.52m^2 **C** 13.64m^2 **D** 14.08m^2

Q50. A chord of a circle of radius 10cm subtends a right angle at its centre. The length of the chord (in cm) is: **1 Mark**

A $5\sqrt{2}$ **B** $10\sqrt{2}$ **C** $\frac{5}{\sqrt{2}}$ **D** $10\sqrt{3}$

Q51. In Figure, PQ is tangent to the circle with centre at O, at the point B. If $\angle AOB = 100^\circ$, then $\angle ABP$ is equal to: **1 Mark**

A 50° **B** 40° **C** 60° **D** 80°

Q52. The radius (in cm) of the largest right circular cone that can be cut out from a cube Of edge 4.2 cm is **1 Mark**

A 4.2 **B** 2.1 **C** 8.4 **D** 1.05

Q53. From a point Q, 13cm away from the centre of a circle, the length of tangent PQ to the circle is 12cm. The radius of the circle (in cm) is: **1 Mark**

A 25 **B** $\sqrt{313}$ **C** 5 **D** 1

Q54. The angle of elevation of the top of a tower from a point on the ground. which is 30m away from the foot of the tower is 45^o. The height of the tower (in metres) is: **1 Mark**

A 15 **B** 30 **C** $30\sqrt{3}$ **D** $10\sqrt{3}$

Q55. Which of the following is not probability of an event? **1 Mark**

A 0.89 **B** 52% **C** $\frac{1}{13}\%$ **D** $\frac{1}{0.89}$

Q56. In a group of 20 people, 5 can't swim. If one person is selected at random, then the probability that he/ she can swim, is: **1 Mark**

A $\frac{3}{4}$ **B** $\frac{1}{3}$ **C** 1 **D** $\frac{1}{4}$

Q57. The distance between the points $(0, 2\sqrt{5})$ and $(-2\sqrt{5}, 0)$ is: **1 Mark**

A $2\sqrt{10}$ units **B** $4\sqrt{10}$ units
C $2\sqrt{20}$ units **D** 0

Q58. The first three terms of an AP respectively are 3y - 1, 3y + 5 and 5*y* + 1. Then y equals: **1 Mark**

A -3 **B** 4 **C** 5 **D** 2

Q59. ABCD is a rectangle whose three vertices are B(4, 0), C(4, 3) and D(0, 3). The length of one of its diagonals is: **1 Mark**

A 5 **B** 4 **C** 3 **D** 25

Q60. IIn an A.P., if the first term (a) = — 16 and the common difference (d) =- 2, then the sum of first 10 terms is: **1 Mark**

A - 200 **B** - 70 **C** - 250 **D** 250

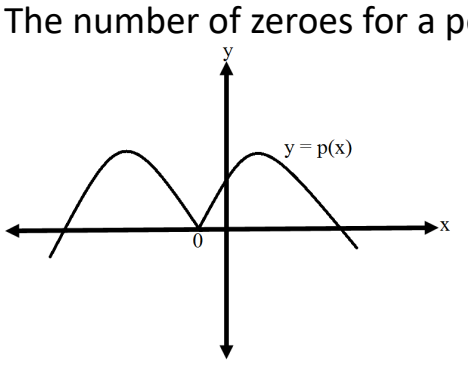
Q61. The sum of exponents of prime factors in the prime-factorisation of 196 is: **1 Mark**

A 3 **B** 4 **C** 5 **D** 2

Q62. If (a, b) is the mid-point of the line segment joining the points A(10, –6) and B(k, 4) and a – 2b = 18, the value of k is: **1 Mark**

A 30 **B** 22 **C** 4 **D** 40

Q63. The number of zeroes for a polynomial p(x) where graph of y = p(x) is given in Figure, is: **1 Mark**

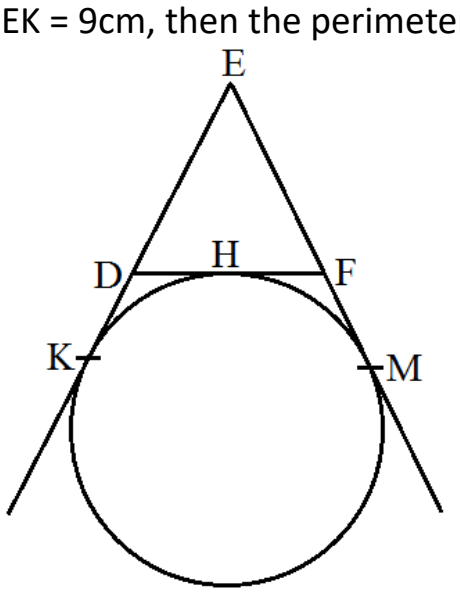


A 3 **B** 4 **C** 0 **D** 5

Q64. A ladder makes an angle of 60° with the ground when placed against a wall. If the foot of the ladder is 2 m away from the wall, then the length of the ladder (in metres) is: **1 Mark**

A $\frac{4}{\sqrt{3}}$ **B** $4\sqrt{3}$ **C** $2\sqrt{2}$ **D** 4

Q65. In Fig 2, a circle touches the side DF of $\angle EDF$ at hand touches ED and EF produced at K and M respectively. If EK = 9cm, then the perimeter of $\triangle EDF$ (in cm) is: **1 Mark**



A 18 **B** 13.5 **C** 12 **D** 9

Q66. The radius of a sphere (in cm) whose volume is $12\pi\ \mathrm{cm}^3$, is: **1 Mark**

A 3 **B** $3\sqrt{3}$ **C** $3^{\frac{2}{3}}$ **D** $3^{\frac{1}{3}}$

Q67. The value of θ for which $\cos(10^\circ + \theta) = \sin 30^\circ$, is: **1 Mark**

A 50° **B** 40° **C** 80° **D** 20°

Q68. IFor θ= 30°, the value of (2 sin θ cos θ) is: **1 Mark**

A 1 **B** $\frac{\sqrt{3}}{2}$ **C** $\frac{\sqrt{3}}{4}$ **D** $\frac{3}{2}$

Q69. A ladder makes an angle of 60° with the ground when placed against a wall. If the foot of the ladder is 2m away from the wall, then the length of the ladder (in metres) is: **1 Mark**

A $\frac{4}{\sqrt{3}}$ **B** $4\sqrt{3}$ **C** $2\sqrt{2}$ **D** 4

Q70. If α, β are the zerose of a polynomial p(x) = x^2 + x - 1, then, $\alpha^2 + \beta^2$ is equals to: **1 Mark**

A $\frac{-3}{4}$ **B** $\frac{5}{4}$ **C** $\frac{1}{4}$ **D** $\frac{3}{4}$

Q71. If A and B are the points (-6, 7) and (-1, -5) respectively, then the distance 2AB is equal to **1 Mark**

A 13 **B** 26 **C** 169 **D** 238

Q72. The distance between the points $(\mathrm{a}\cos\theta + \mathrm{b}\sin\theta, 0)$ and $(0, \mathrm{a}\sin\theta - \mathrm{b}\cos\theta)$, is: **1 Mark**

A $\mathrm{a}^2 + \mathrm{b}^2$ **B** $\mathrm{a}^2 - \mathrm{b}^2$
C $\sqrt{\mathrm{a}^2 + \mathrm{b}^2}$ **D** $\sqrt{\mathrm{a}^2 - \mathrm{b}^2}$

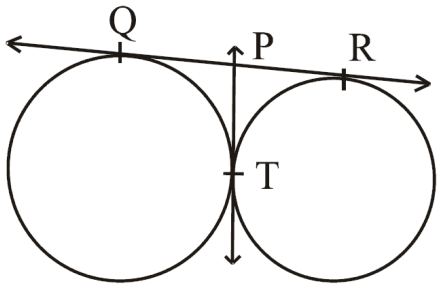
Q73. The coordinates of the point P dividing the line segment joining the points A(1, 3) and B(4, 6) in the ratio 2 : 1 are: **1 Mark**

A (2, 4) **B** (3, 5) **C** (4, 2) **D** (5, 3)

Q74. The curved surface area of a cone having height 24cm and radius 7cm, is: **1 Mark**

A 528cm^2 **B** 1056cm^2 **C** 550cm^2 **D** 500cm^2

Q75. In Fig. 1, QR is a common tangent to the given circles, touching externally at the point T. The tangent at T meets QR at P. If PT = 3.8cm, then the length of QR (in cm) is: **1 Mark**



A 3.8 **B** 7.6 **C** 5.7 **D** 1.9

Q76. Probability of happening of an event is denoted by p and probability of non-happening of the event is denoted by q. Relation between p and q is. **1 Mark**

A p + q = 1 **B** p = 1, q = 1 **C** p = q - 1 **D** p + a + 1 = 0

Q77. The zeroes of the polynomial $x^2 - 3x - m\,(m + 3)$ are: **1 Mark**

A m, m + 3 **B** –m, m + 3 **C** m, – (m + 3) **D** –m, – (m + 3)

Q78. The first term of an A.P. is 5 and the last term is 45. If the sum of all the terms is 400, the number of terms is: **1 Mark**

A 20 **B** 8 **C** 10 **D** 16

Q79. From an external point Q, the length of the tangent to a circle is 5cm and the distance of Q from the centre is 8cm. The radius of the circle is **1 Mark**

A 39cm **B** 3cm **C** $\sqrt{39}\mathrm{cm}$ **D** 7cm

Q80. In Figure, TP and TQ are tangents drawn to the circle with centre at O. If $\angle\mathrm{PQR} = 115^\circ \angle\mathrm{PQR} = 115^\circ$ then $\angle\mathrm{PTQ}$ is: **1 Mark**

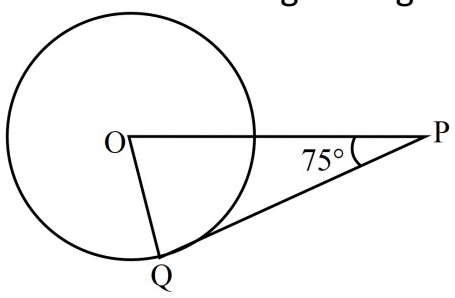
A 115° **B** 57.5° **C** 55° **D** 65°

Q81. The centre of a circle whose end points of a diameter are (-6, 3) and (6, 4) is: **1 Mark**

A $(8, -1)$ **B** $(4, 7)$ **C** $\left(0, \frac{7}{2}\right)$ **D** $\left(4, \frac{7}{2}\right)$

Q82. **Directions:** In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as: **1 Mark**

Assertion: In the given figure, if PQ is a tangent to the circle with centre O, then the value of $\angle\mathrm{POQ}$ is 25°



Reason: If two tangents are drawn to a circle from an external point, then they subtend equal angles at the centre

A Assertion and Reason both are correct statements and Reason is the correct explanation of Assertion.

B Assertion and Reason both are correct statements but Reason is not the correct explanation of Assertion.

C Assertion is correct statement but Reason is wrong statement.

D Assertion is wrong statement but Reason is correct statement.

Q83. For what value of k do the equations kx - 2y = 3 and 3x + y = 5 represent two lines intersecting at a unique point? **1 Mark**

A k = 3

B k = -3

C k = 6

D All real values except -6

Q84. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: Whole no. are known as non negative integers and it does not include any fractional or decimal part.

Reason: Set of whole numbers are {-1, -2, -3_____}.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Q85. **Directions:** In the following questions, a statement of assertion (A) is followed by a statement of reason (R).Mark the correct choice as: **1 Mark**

Assertion: A bicycle wheel makes 5000 revolutions in covering 11km. Then diameter of the wheel is 35cm.

Reason: Area of segment of a circle is $\frac{\theta}{360} \times \pi r^2 - \frac{1}{2} r^2 \sin\theta$

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Q86. **DIRECTION:** In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as: **1 Mark**

Assertion: D and E are points on the sides AB and AC respectively of a $\triangle ABC$ such that AB = 10.8cm, AD = 6.3cm, AC = 9.6cm and EC = 4cm then DEis parallel to BC.

Reason: If a line is parallel to one side of a triangle then it divides the other two sides in the same ratio.

A Both assertion (A) and reason (R) are true and reason (R) isthe correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true

Q87. From a point P which is at a distance 13cm from the centre O of a circle of radius 5cm, the pair of tangent PQ and PR to the circle are drawn. Then the area of the quadrilateral PQOR is: **1 Mark**

A 60cm^2 **B** 65cm^2 **C** 30cm^2 **D** 32.5cm^2

Q88. From a well shuffled pack of 52 cards, one card is drawn at random. The probability of getting a diamond is: **1 Mark**

A $\frac{12}{52}$

B $\frac{1}{4}$

C $\frac{3}{4}$

D $\frac{1}{2}$

Q89. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: The no. which are exactly divisible by 2 are called even no.

Reason: Even no. can be positive or negative integers.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Q90. If tangents PA and PB from a point P to a circle with centre O are inclined to each other at angle of 80°, then ∠POA is equal to **1 Mark**

A 50° **B** 60° **C** 70° **D** 80°

Q91. **Directions:** In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as: **1 Mark**

Assertion: If $\triangle ABC$ and $\triangle PQR$ are congruent triangles, then they are also similar triangles.

Reason: All congruent triangles are similar but the similar triangles need not be congruent.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Q92. The relation between mean, mode and median is: **1 Mark**

A Mode = (3 × mean) - (2 × median) **B** Mode = (3 × median) - (2 × mean)

C Mode = (3 × mean) - (2 × mode) **D** Mode = (3 × median) - (2 × mode)

Q93. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: If a pair of linear equations is consistent, then the lines are intersecting or coincident

Reason: Because the two lines definitely have a solution.

A both assertion and reason are correct and reason is correct explanation for assertion

B both assertion and reason are correct but reason is correct explanation for assertion

C assertion is correct but reason is false

D both assertion and reason are false

Q94. **Directions:** In the following questions, a statement of assertion (A) is followed by a statement of reason (R).Mark the correct choice as: **1 Mark**

Assertion: The probability of winning a game is 0.4, then the probability of losing it, is 0.6.

Reason: P(E) + P(not E) = 1.

A If both Assertion and Reason are true and Reason is the correct explanation of Assertion.

B If both Assertion and Reason are true and Reason is not the correct explanation of Assertion.

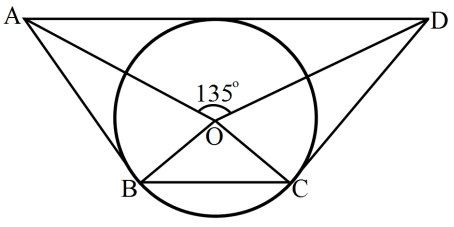
C If Assertion is true but Reason is false.

D If Assertion is false but Reason is true.

Q95. If α and β are zeros of $x^2 + 5x + 8$, then the value of $(\alpha + \beta)$ is: **1 Mark**

A 8 **B** 5 **C** -5 **D** -8

Q96. In the given figure, if $\angle AOD = 135^\circ$ then $\angle BOC$ is equal to: **1 Mark**



A 25º **B** 45º **C** 52.5º **D** 62.5º

Q97. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: $(2x - 1)^2 - 4x^2 + 5 = 0$ is not a quadratic equation.

Reason: An equation of the form $ax^2 + bx + c = 0$, $a \neq 0$, where a, b, c ∈ R is called a quadratic equation.

A If both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

B If both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion.

C If Assertion is correct but Reason is incorrect.

D If Assertion is incorrect but Reason is correct.

Q98. If $3 \cot \theta = 4$ then $\frac{(5 \sin \theta + 3 \cos \theta)}{(5 \sin \theta - 3 \cos \theta)} = ?$ **1 Mark**

A $\frac{1}{3}$ **B** 3 **C** $\frac{1}{9}$ **D** 9

Q99. If the angles of elevation of a tower from two points distant a and b (a > b) from its foot and in the same straight line from it are 30° and 60°, then the height of the tower is: **1 Mark**

A $\sqrt{a+b}$ **B** $\sqrt{ab}$
C $\sqrt{a-b}$ **D** $\sqrt{\frac{a}{b}}$

Q100. If the sum of the zeros of the polynomial $f(x) = 2x^3 - 3kx^2 + 4x - 5$ is 6, then the value of k is: **1 Mark**

A 2 **B** 4 **C** -2 **D** -4