CLASS 9

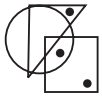
SET-3

HINTS AND SOLUTIONS

1. (A)

2. (D) : G E 5 D A 8 $ 3 T I [Q 7 @] B [R 2 *] % U 1 [M 6 +]

3. (D) : (i) mind is power → ki po chi
(ii) use power well → mi chi ro
(iii) kind is good → tu vi po
From (i) and (ii), power → chi
From (i) and (iii), is → po
So, from (i), mind → ki

4. (A) : 

5. (C) : A. Y $\xrightarrow{-3}$ V $\xrightarrow{-3}$ S $\xrightarrow{-3}$ P
B. N $\xrightarrow{-3}$ K $\xrightarrow{-3}$ H $\xrightarrow{-3}$ E
C. O $\xrightarrow{-3}$ L $\xrightarrow{-2}$ J $\xrightarrow{-3}$ G
D. T $\xrightarrow{-3}$ Q $\xrightarrow{-3}$ N $\xrightarrow{-3}$ K

6. (A) : 

7. (B)

8. (A) : From fig. (2) to (1), the number of sides in the upper-left element decreases by one and the number of sides in all other elements increases by one. Also, the element at middle-right position moves to the middle-left position.

9. (A) : Each row and column contains figures consisting of a circle with two line segments, a circle with three line segments and a circle with four line segments.

10. (B) : T + P × R – S means T is daughter of P, who is wife of R, who is son of S. So, T is the granddaughter of S.

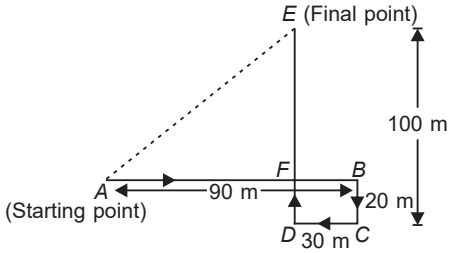
11. (B) : WIN7T6E2R / ЯƐ2ƎϬ7TИIW Water layer

12. (B) : 

13. (C) : According to the question, sitting arrangement of six given friends is:
U, S, P, R, T, Q
So, there are three persons to the left of R.

14. (C) : Input : ink hurry yet for the victory
Step I : yet ink hurry for the victory
Step II : yet for ink hurry the victory
Step III : yet for victory ink hurry the
Step IV : yet for victory hurry ink the
Step V : yet for victory hurry the ink
Hence, step V is the last step for the input.

15. (B) :



Now, $AF = AB - FB \Rightarrow AF = 90 - 30 = 60$ m
and $EF = DE - FD \Rightarrow EF = 100 - 20 = 80$ m
Hence, required distance,

$$AE = \sqrt{(AF)^2 + (EF)^2} = \sqrt{60^2 + 80^2}$$
$$\Rightarrow AE = \sqrt{3600 + 6400} = \sqrt{10000}$$
$$\Rightarrow AE = 100 \text{ m}$$

16. (D)

17. (B) : We have, $x = \sqrt{3} + 2\sqrt{2}, y = \sqrt{3} - 2\sqrt{2}$

Now, $x^2 + y^2 = (\sqrt{3} + 2\sqrt{2})^2 + (\sqrt{3} - 2\sqrt{2})^2$

$= (\sqrt{3})^2 + (2\sqrt{2})^2 + 2 \times \sqrt{3} \times 2\sqrt{2} + (\sqrt{3})^2 + (2\sqrt{2})^2 - 2 \times \sqrt{3} \times 2\sqrt{2}$

$= 2((\sqrt{3})^2 + (2\sqrt{2})^2) = 2(3 + 8) = 22$

and $x \times y = (\sqrt{3} + 2\sqrt{2})(\sqrt{3} - 2\sqrt{2}) = (\sqrt{3})^2 - (2\sqrt{2})^2 = -5$

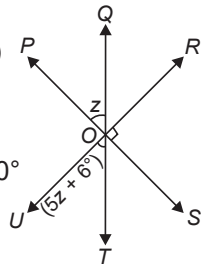
So, $x^2y^2 = (xy)^2 = (-5)^2 = 25$

Now, $x^4 + y^4 + 6x^2y^2 = (x^4 + y^4 + 2x^2y^2) + 4x^2y^2$

$= (x^2 + y^2)^2 + 4x^2y^2$

$= (22)^2 + 4 \times 25 = 584$

18. (C) : $\angle POQ = \angle TOS = z$
(Vertically opposite angles)
Now, sum of angles on a straight line is 180°.



$\therefore \angle UOT + \angle TOS + \angle SOR = 180°$
$\Rightarrow 5z + 6° + z + 90° = 180°$
$\Rightarrow 6z + 96° = 180°$
$\Rightarrow 6z = 84°$
$\Rightarrow z = 14°$

19. (C) : Let $a = 5x$, $b = 12x$ and $c = 13x$.

According to question,

$13x - 5x = 32$

$\Rightarrow \quad 8x = 32$

$\Rightarrow \quad x = 4$

$\therefore \quad a = 5 \times 4 = 20$ cm, $b = 12 \times 4 = 48$ cm

and $c = 13 \times 4 = 52$ cm

Now, $s = \dfrac{20+48+52}{2} = \dfrac{120}{2} = 60$ cm

So, area of triangle

$= \sqrt{60(60-20)(60-48)(60-52)}$

$= \sqrt{60\times40\times12\times8}$

$= \sqrt{2\times3\times10\times2\times2\times10\times2\times2\times3\times2\times2\times2}$

$= 2 \times 2 \times 2 \times 2 \times 3 \times 10$

$= 480$ cm^2

20. (D) : Total number of trials = 48

Number of times Monika hits the dart = 12

Number of times Monika does not hit the dart

$= 48 - 12 = 36$

$\therefore \quad$ Required probability $= \dfrac{36}{48} = \dfrac{3}{4}$

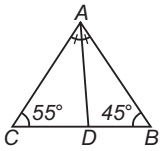
21. (C) : In ΔABC,

$\angle BAC + \angle ABC + \angle ACB = 180°$

(By angle sum property)

$\Rightarrow \quad \angle BAC + 45° + 55° = 180°$

$\Rightarrow \quad \angle BAC = 80°$



Since, AD is the angle bisector of $\angle BAC$

$\therefore \quad \angle CAD = \angle BAD = \dfrac{80°}{2} = 40°$

Now, in ΔADC,

$\angle DCA + \angle CAD + \angle ADC = 180°$

$\Rightarrow \quad 55° + 40° + \angle ADC = 180°$

$\Rightarrow \quad \angle ADC = 180° - 95° = 85°$

Now, $\angle ADB + \angle ADC = 180°$ (Linear pair)

$\Rightarrow \quad \angle ADB = 180° - 85° = 95°$

22. (A) : Putting $x = -2$ and $y = -3$ in the given expression, we get, $[(-2)^3(-3) + 3(-2)^2(-3)^3 + (-2)]$

$[4(-2)(-3)^2 - 5(-2)^2 - 6(-3)] + (-2)(-3)^2$

$= (24 - 324 - 2)(-72 - 20 + 18) - 18$

$= (-302) \times (-74) - 18$

$= 22348 - 18 = 22330$

23. (D) : As, perpendicular from centre of a circle to a chord bisects the chord of the circle,

$\therefore \quad AP = \dfrac{1}{2}AB$ and $CQ = \dfrac{1}{2}CD$

$\Rightarrow \quad AP = 4$ cm and $CQ = 3$ cm

In ΔAPO,

$AO^2 = AP^2 + OP^2$

$\Rightarrow \quad 5^2 = 4^2 + OP^2 \Rightarrow \quad OP = \sqrt{25-16} = \sqrt{9} = 3$ cm

Now, in ΔCQO,

$CO^2 = CQ^2 + OQ^2$

$\Rightarrow \quad 5^2 = 3^2 + OQ^2 \Rightarrow \quad OQ = \sqrt{25-9} = \sqrt{16} = 4$ cm

Therefore, $PQ = OP + OQ = (3 + 4)$ cm $= 7$ cm

24. (C) : Here, radius of base of a cone (r) = 56 cm and, curved surface area = 12320 cm^2

$\therefore \quad \pi rl = 12320$ cm^2

$\Rightarrow \quad l = \dfrac{12320\times7}{22\times56}$ cm $= 70$ cm

Again, we have $r^2 + h^2 = l^2$

$\therefore \quad h^2 = l^2 - r^2 = 70^2 - 56^2 = 4900 - 3136 = 1764$

$\Rightarrow \quad h = \sqrt{1764}$ cm $= 42$ cm

Hence, the height of the cone is 42 cm.

25. (D) : A. Putting $(-2, 3)$ in the given equation, we get

$2(-2) + 3 \times 3 = 6$

$\Rightarrow \quad -4 + 9 = 6 \Rightarrow 5 = 6$ (Incorrect)

B. Putting $(3, 4)$ in the given equation, we get

$2 \times 3 + 3 \times 4 = 6 \Rightarrow 6 + 12 = 6$

$\Rightarrow \quad 18 = 6$ (Incorrect)

C. Putting $(\sqrt{2}, \sqrt{7})$ in the given equation, we get

$2\times\sqrt{2} + 3\times\sqrt{7} = 6$

$\Rightarrow \quad 2\sqrt{2} + 3\sqrt{7} = 6$ (Incorrect)

D. Putting $(12, -6)$ in the given equation, we get

$2(12) + 3(-6) = 6$

$\Rightarrow \quad 24 - 18 = 6 \Rightarrow 6 = 6$ (Correct)

Hence, only $(12, -6)$ satisfies the given equation.

Therefore, $(12, -6)$ is the solution of the given equation.

26. (D) : As, diagonals of a square bisect the angles of the square.

$\therefore \quad \angle DCO = \angle OCX = \dfrac{90°}{2} = 45°$

In ΔOCX, $\angle OCX + \angle OXC = \angle COD$

[Exterior angle property]

$\Rightarrow \quad 45° + x = 105° \quad \Rightarrow x = 60°$

27. (D) : Let the radius and length of original wire be r and h respectively.

Let after decreasing the radius to one-third, the new length be H.

According to question

$\pi r^2 h = \pi\left(\dfrac{r}{3}\right)^2 H \quad \Rightarrow r^2 h = \dfrac{r^2}{9}H \quad \Rightarrow H = 9h$

Hence, the length becomes 9 times the original length.

28. (C) : We have, $PQ = QS$

$\Rightarrow$ $PR + RQ = QT + TS$

$\Rightarrow$ $QT + RQ = QT + TS$ $(PR = QT)$

$\Rightarrow$ $RQ = TS$

29. (A) : We have,

$125x^3 + 225x^2y + 135xy^2 + 27y^3$

$= (5x)^3 + (3y)^3 + 3 \times (5x)^2 \times (3y) + 3 \times (5x) \times (3y)^2$

$= (5x + 3y)^3$ $(\because (a + b)^3 = a^3 + b^3 + 3a^2b + 3ab^2)$

$= (5x + 3y)\,(5x + 3y)\,(5x + 3y)$

30. (D) : Let the length, breadth and height of the cuboid are $6x$, $3x$ and $2x$ respectively.

Total surface area of cuboid $= 2(lb + bh + hl)$

$\Rightarrow$ $1152 = 2(6x \times 3x + 3x \times 2x + 2x \times 6x)$

$\Rightarrow$ $1152 = 2(18x^2 + 6x^2 + 12x^2) \Rightarrow 1152 = 72x^2$

$\Rightarrow$ $x^2 = \dfrac{1152}{72} = 16 \Rightarrow x = \sqrt{16} = 4$

$\therefore$ Length = 24 cm, breadth = 12 cm, height = 8 cm

$\Rightarrow$ Volume of cuboid $= l \times b \times h = 24 \times 12 \times 8$ cm^3

$= 2304$ cm^3

31. (C) : $\sqrt{1369} + \sqrt{0.0615 + x} = 37.25$

$\Rightarrow$ $\sqrt{0.0615 + x} = 37.25 - \sqrt{1369} = 37.25 - 37 = 0.25$

$\Rightarrow$ $0.0615 + x = (0.25)^2 = 0.0625$

$\Rightarrow$ $x = 0.0625 - 0.0615 = 0.001 = 1/10^3 = 10^{-3}$.

32. (D) : We have, $a^{1/3} + \dfrac{1}{a^{1/3}} = 6$

Cubing both sides, we get

$\Rightarrow$ $\left(a^{1/3} + \dfrac{1}{a^{1/3}}\right)^3 = 6^3$

$\Rightarrow$ $a + \dfrac{1}{a} + 3a^{1/3} \times \dfrac{1}{a^{1/3}}\left(a^{1/3} + \dfrac{1}{a^{1/3}}\right) = 216$

$\Rightarrow$ $a + \dfrac{1}{a} + 3 \times 6 = 216$ $\Rightarrow$ $a + \dfrac{1}{a} = 216 - 18$

$\Rightarrow$ $a + \dfrac{1}{a} = 198$ ...(i)

Again cubing both sides, we get

$\Rightarrow$ $\left(a + \dfrac{1}{a}\right)^3 = (198)^3$

$\Rightarrow$ $a^3 + \dfrac{1}{a^3} + 3a \times \dfrac{1}{a}\left(a + \dfrac{1}{a}\right) = 7762392$

$\Rightarrow$ $a^3 + \dfrac{1}{a^3} + 3 \times 198 = 7762392$ (From (i))

$\Rightarrow$ $a^3 + \dfrac{1}{a^3} = 7762392 - 594 = 7761798$

33. (D) : In ΔPQR and ΔBCA,

$PQ = BC = 6$ cm (Given)

$\angle PQR = \angle BCA = 70°$ (Given)

$QR = CA = 8$ cm (Given)

$\therefore$ $\Delta PQR \cong \Delta BCA$ (By SAS congruency)

$\therefore$ $\angle QPR = \angle CBA$ (By CPCT)

$\Rightarrow$ $6x - 18° = 4x - 2°$

$\Rightarrow$ $2x = 16°$

$\Rightarrow$ $x = 8°$

$\therefore$ $\angle CBA = 4x - 2° = 4 \times 8° - 2° = 30°$

In ΔABC,

$\angle BAC + \angle ACB + \angle CBA = 180°$

(By angle sum property)

$\Rightarrow$ $\angle BAC + 70° + 30° = 180°$

$\Rightarrow$ $\angle BAC = 180° - 100° = 80°$

34. (D) : We have, $4x + 7y = 5\,(1 - y) + 8$

$4x + 7y = 5 - 5y + 8$

$4x + 12y = 13$

Which is a linear equation in two variables.

Hence, given equation has infinitely many solutions.

35. (C) : Class width = 12 – 7 = 5

Class mark = 22

So, lower limit of class = $22 - \dfrac{5}{2} = 22 - 2.5 = 19.5$

and upper limit of class = $22 + \dfrac{5}{2} = 22 + 2.5 = 24.5$

$\therefore$ Required class is 19.5 – 24.5

36. (B) : One man's one day work $= \dfrac{1}{24 \times 16} = \dfrac{1}{384}$

One woman's one day work $= \dfrac{1}{32 \times 24} = \dfrac{1}{768}$

Work done by sixteen men and sixteen women in 12 days $= 12 \times 16\left(\dfrac{1}{384} + \dfrac{1}{768}\right) = \dfrac{3}{4}$

Remaining work $= 1 - \dfrac{3}{4} = \dfrac{1}{4}$

16 men and 16 women two days work

$= 2 \times 16\left(\dfrac{1}{384} + \dfrac{1}{768}\right) = \dfrac{1}{8}$

Remaining work $= \dfrac{1}{4} - \dfrac{1}{8} = \dfrac{1}{8}$

$\therefore$ $\dfrac{1}{8}$ work will be done in 2 days by $\left(384 \times \dfrac{1}{8} \times \dfrac{1}{2}\right)$ men *i.e.*, 24 men.

37. (D) : Let the money he borrows be ₹ x.

Then, the interest he has to pay after 2 years at the rate of 5% p.a., S.I. $= \dfrac{x \times 5 \times 2}{100} = ₹\dfrac{10x}{100}$

$$\text{Amount}(A_1) = x + \frac{10x}{100} = ₹\frac{110x}{100}$$

The amount he will receive after 2 years at the rate of 8% p.a. compounded annually,

$$A_2 = x\left(1+\frac{8}{100}\right)^2 \Rightarrow A_2 = ₹\left[\left(\frac{108}{100}\right)^2 x\right]$$

According to question,

$A_2 - A_1 = 398.4$

$$\Rightarrow x\left(\frac{108}{100}\right)^2 - \frac{110x}{100} = 398.4$$

$$\Rightarrow x\left(\frac{11664-11000}{10000}\right) = 398.4$$

$$\Rightarrow x = \frac{398.4\times 10000}{664} \Rightarrow x = ₹\ 6000$$

Therefore, amount he borrows is ₹ 6000.

38. (D) : Let one year ago, age of Deepak's son = x years

then one year ago, age of Deepak = $3x$ years.

$\therefore$ Present age of Deepak's son = $(x + 1)$ years

$\therefore$ Present age of Deepak = $(3x + 1)$ years

Seven years later, age of Deepak's son = $(x + 8)$ years

Seven years later, age of Deepak = $(3x + 8)$ years

According to question,

$(3x + 8) - (x + 8) = 32$

$\Rightarrow 2x = 32 \Rightarrow x = 16$

So, present age of Deepak's son = 16 + 1 = 17 years

39. (D) : Number of prizes = 39

Number of blanks = 12

Total number of outcomes = 39 + 12 = 51

$\therefore$ Required probability $= \frac{39}{51} = \frac{13}{17}$

40. (A) : Surface area of balloon when radius is 3 cm = $4\pi(3)^2$ cm^2

Surface area of balloon when radius is 9 cm = $4\pi(9)^2$ cm

Ratio of two surface areas $= \frac{4\pi(3)^2}{4\pi(9)^2} = \frac{1}{9}$ *i.e.*, 1 : 9

41. (A) : Length (l), breadth (b) and height (h) of the room are 10 m, 7 m and 5 m respectively.

Area of the four walls = $2(l + b) \times h$

$= 2(10 + 7) \times 5 = 2 \times 17 \times 5$

$= 170$ m^2

Area of 2 doors = $2 \times 1 \times 3 = 6$ m^2

Area of 3 windows = $2 \times 1.5 + 2 \times 1 \times 1.5$

$= 3 + 3 = 6$ m^2

$\therefore$ Area to be painted = $(170 - 6 - 6)$ m^2 = 158 m^2

Cost of painting = ₹ (3×158) = ₹ 474

42. (D) : Distance travelled by A in 4 hours = 4×4 = 16 km

Let B will catch A after $(16 + x)$ km.

Therefore time taken by A to cover x km will be equal to time taken by B to cover $(16 + x)$ km.

Time taken by A to cover x km = $\frac{x}{4}$

And time taken by B to cover $(16 + x)$ km = $\frac{16+x}{10}$

So, $\frac{16+x}{10} = \frac{x}{4}$

$\Rightarrow 2(16 + x) = 5x \Rightarrow 32 + 2x = 5x$

$\Rightarrow 3x = 32 \Rightarrow x = \frac{32}{3}$

Hence, B will catch A after $\left(16+\frac{32}{3}\right)$km *i.e.*, 26.67 km.

43. (D) : Let number of students in classroom $A = x$.

Then the number of students in classroom B = $180 - x$.

According to question,

$x - 10 = 180 - x + 10$

$\Rightarrow 2x = 200 \Rightarrow x = 100$

44. (A) : Let the number be x.

According to question,

$(x^2 - 25) = (x - 25)^2$

$\Rightarrow x^2 - 25 = x^2 + 625 - 50x$

$\Rightarrow 50x = 650 \Rightarrow x = \frac{650}{50} = 13$

45. (D) : $s = \frac{10+10+12}{2}\text{ m} = \frac{32}{2}\text{ m} = 16\text{ m}$

Area of advertisement board = $\sqrt{16(6)(6)(4)}$

$= 6 \times 8 = 48$ m^2

Cost of painting = ₹ (48×2.25) = ₹ 108.

46. (B) : $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2}$

$$= \frac{3+\sqrt{8}}{(3)^2-\left(\sqrt{8}\right)^2} - \frac{\left(\sqrt{8}+\sqrt{7}\right)}{\left(\sqrt{8}\right)^2-\left(\sqrt{7}\right)^2} + \frac{\left(\sqrt{7}+\sqrt{6}\right)}{\left(\sqrt{7}\right)^2-\left(\sqrt{6}\right)^2}$$

$$- \frac{\left(\sqrt{6}+\sqrt{5}\right)}{\left(\sqrt{6}\right)^2-\left(\sqrt{5}\right)^2} + \frac{\left(\sqrt{5}+2\right)}{\left(\sqrt{5}\right)^2-(2)^2}$$

$$= \frac{3+\sqrt{8}}{9-8} - \frac{\left(\sqrt{8}+\sqrt{7}\right)}{8-7} + \frac{\left(\sqrt{7}+\sqrt{6}\right)}{7-6} - \frac{\left(\sqrt{6}+\sqrt{5}\right)}{6-5} + \frac{\left(\sqrt{5}+2\right)}{5-4}$$

$= 3 + \sqrt{8} - \sqrt{8} - \sqrt{7} + \sqrt{7} + \sqrt{6} - \sqrt{6} - \sqrt{5} + \sqrt{5} + 2$

$= 3 + 2 = 5$

47. (D) : (i) We have, $(5a - 8, -12) = (-12, 6b + 8)$

$\Rightarrow$ $5a - 8 = -12$

$\Rightarrow$ $5a = -4 \Rightarrow a = \frac{-4}{5}$

And $-12 = 6b + 8$

$\Rightarrow$ $6b = -20 \Rightarrow b = \frac{-10}{3}$

$\therefore$ $5(a-b) = 5\left(\frac{-4}{5} - \left(\frac{-10}{3}\right)\right) = \frac{-12+50}{15} \times 5 = \frac{38}{3}$

(ii) Abscissa of $A = -6$

Ordinate of $A = 8$

Abscissa of $B = 5$

Ordinate of $B = -7$

$\therefore$ (abscissa of A + ordinate of B) – (abscissa of B + ordinate of A)

$= (-6 + (-7)) - (5 + 8) = -13 - 13 = -26$

(iii) The distance of the point (2, 3) from the x-axis is 3 units and from the y-axis is 2 units.

$\therefore$ Required sum $= 2 + 3 = 5$

48. (B) : Statement-I : Let radius (r) and height (h) of the cone be $7x$ cm and x cm respectively and l be the slant height of the cone.

$l^2 = r^2 + h^2 = (7x)^2 + (x)^2$

$\Rightarrow$ $l = \sqrt{50x^2} = 5\sqrt{2}x$ cm

Now, curved surface area $= 616$ cm^2

$\Rightarrow$ $\pi rl = 616 \Rightarrow \frac{22}{7} \times 7x \times 5\sqrt{2}x = 616$

$\Rightarrow$ $110 \times 1.4 \times x^2 = 616$ $(\sqrt{2} = 1.4)$

$\Rightarrow$ $x^2 = \frac{616}{154} = 4$

$\Rightarrow$ $x = 2$

$\therefore$ $r = 7x = 7 \times 2 = 14$ cm

$\therefore$ Volume of the cone

$$= \frac{1}{3}\pi r^2 h = \frac{1}{3} \times \frac{22}{7} \times 14^2 \times 2 \text{ cm}^3$$

$$= \frac{1232}{3} \text{ cm}^3$$

$\therefore$ Statement-I is false.

Statement-II : Volume of sphere of diameter 10 cm

$$= \frac{4}{3}\pi(5)^3 \text{cm}^3 \quad [\because r = 5 \text{ cm}]$$

Volume of sphere of diameter 6 cm

$$= \frac{4}{3}\pi(3)^3 \text{cm}^3 \quad [\because r = 3 \text{ cm}]$$

Let weight of sphere of diameter 6 cm be x.

$\therefore$ $\frac{\frac{4}{3}\pi(5)^3}{\frac{4}{3}\pi(3)^3} = \frac{4.4}{x}$

$\Rightarrow$ $x = \frac{4.4 \times 3 \times 3 \times 3}{5 \times 5 \times 5} = 0.9504$ kg.

$\therefore$ Statement-II is true

49. (C)

50. (A) : (i) True ; Let $p(x) = x^3 - mx^2 + 2x + 40$

Since, $x = -2$ is a zero of $p(x)$.

$\Rightarrow$ $p(-2) = 0$

$\Rightarrow$ $(-2)^3 - m(-2)^2 + 2(-2) + 40 = 0$

$\Rightarrow$ $-8 - 4m - 4 + 40 = 0 \Rightarrow -4m + 28 = 0$

$\Rightarrow$ $m = 7$

$\Rightarrow$ (ii) False; Let $p(x) = 6x^3 + 7x^2 + 12x + 18$

$\therefore$ $p(-1) = 6(-1)^3 + 7(-1)^2 + 12(-1) + 18$

$= -6 + 7 - 12 + 18 = 7$

(iii) True; we have, $p(x) = x^3 - x^2 + 5x$

$\therefore$ $p(-3) = (-3)^3 - (-3)^2 + 5(-3) = -27 - 9 - 15 = -51$

and $p(3) = (3)^3 - (3)^2 + 5(3) = 27 - 9 + 15 = 33$

$\therefore$ $p(-3) + p(3) = -51 + 33 = -18$