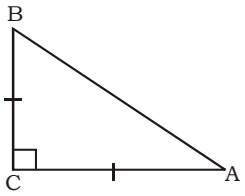
RRB ALP CBT-1
Answers with Explanation–6

1. (D)



$AB^2 = 8^2 + 8^2$

$AB = 8\sqrt{2}$

2. (C) Let large number = a

difference between numbers = a – 24

ATQ,

a + 24 = 5(a–24)

a+24= 5a –120

144 = 4a

a = 36

3. (A) Area of circle = πr^2

Circumference of circle = $2\pi r$

circumference of circular pond

= 44 × 700 = 30800

$2\times\frac{22}{7}\times r = 30800$

r = 49m

Area of pond = $\frac{22}{7}\times 49\times 49 = 7546\ m^2$

4. (A) Let number of male and female officers = 4y and 7y

ATQ,

$\frac{4y-50}{7y-100} = \frac{7}{12}$

(7y–100)7 = (4y–50)×12

49y – 700 = 48y – 600

y = 100

Number of male = 4y

= 4×100 = 400

5. (B) $\frac{25+24-4}{27-3\times 4} = \frac{45}{15} = 3$

6. (A)

7. (C)

8. (B)

C	O	C	K		H	A	N	G
+3 ↓	+3 ↓	+3 ↓	+3 ↓		+3 ↓	+3 ↓	+3 ↓	+3 ↓
F	R	F	N		K	D	Q	J

9. (A) Let No. of boys = 2x

No. of girls = x

then

2x + x = 36

x = 12

boys = 24

girls = 12

number of girls before seema = 18 – 13 = 5
number of girls after seema = 12 – 5 – 1 = 6

10. (D)

11. (A) 11×(11+1) = 132

8×(8+1) = 72

then 10 × 11 = 110

12. (D) Ball is a part of cricket and cricket is a game.

13. (A) Cos1° Cos2° Cos3°.....Cos90°....Cos179° = 0

(Because Cos90° = 0)

14. (A) Cos12°+ Cos84° + Cos168° + Cos 96°

= (Cos12° + Cos96°) + (Cos84° + Cos168°)

= 2cos54°. Cos42° + 2Cos126°. Cos42°

= 2Cos42°(Cos54° + Cos126°)

= 2Cos42° (2Cos90°. Cos36°) = 0

(Because Cos90° = 0)

15. (B) Perimeter = 8+5+5= 18

Semiperimeter = $\frac{18}{2}$ = 9

Area of triangle = $\sqrt{s(s-a)(s-b)(s-c)}$

$\frac{1}{2}\times 8\times h = \sqrt{9\times 4\times 4\times 1}$

$\frac{1}{2}\times 8\times h = 12$

h = 3cm

16. (D) $\cos\left(\frac{-7\pi}{4}\right) = x$

$\Rightarrow \cos\left(\frac{7\pi}{4}\right) = x$

$\Rightarrow \cos\left(2\pi - \frac{\pi}{4}\right) = x$

$\Rightarrow x = \mathbf{\frac{1}{\sqrt{2}}}$

17. (C) Side of rhombus = $\frac{150}{4}$ = 37.5 cm

Area of rhombus = side × altitude

45 = 37.5 × Altitude

Altitude = $\frac{45}{375}$ = **1.2 cm**

18. (D) Required percentage = $\frac{27}{(153+27)} \times 100$

= 15%

19. (B) Percentage error = $\frac{\frac{9}{4} - \frac{4}{9}}{\frac{9}{4}} \times 100$

$= \mathbf{8\frac{20}{81}\%}$

20. (D) Let the unit and ten's digit be y and x

A.T.Q.,

$x + y = 13$ ..... (i)

and,

$(10x + y) - 27 = (10y + x)$

$9(x - y) = 27$

$x - y = 3$ .....(ii)

From eq(i) and eq(ii)

$x = 8, y = 5$

$\therefore$ The number is 10(8) + 5 = **85**

21. (A) $\frac{265 \times 40}{100} + \frac{180 \times 35}{100} = \frac{x \times 50}{100}$

$\Rightarrow 10600 + 6300 = x \times 50$

$\Rightarrow x \times 50 = 16900$

$\Rightarrow x = \frac{16900}{50} = \mathbf{338}$

22. (D) $x = 460 \times 15 - 5 \times 200$

$= 6900 - 1000 = \mathbf{5900}$

23. (D) Time taken by all the three pipes to fill the tank

$= \frac{1}{10} + \frac{1}{12} - \frac{1}{6}$ = 60 min

Time taken to fill two-third part of tank

$\frac{60}{1} = \frac{x}{\frac{2}{3}}$ = **40 minutes**

24. (B) $6a^2 = 150$

$a = 5$

Main diagonal = $\sqrt{3}a$ = $\mathbf{5\sqrt{3}}$ **cm**

25. (A) Let the length of Train B be $2x$ and that of Train A be x.

Speed of Train A = $\frac{x}{20}$

Speed of Train B = $\frac{2x}{60} = \frac{x}{30}$

Ratio = $\frac{Speed_A}{Speed_B} = \frac{x \times 30}{20 \times x} = \frac{3}{2} = 3 : 2$

26. (D) Required ratio = $\frac{6.4}{21.6}$

$\Rightarrow \frac{v_1}{v_2} = \frac{6.4}{21.6}$

$\Rightarrow \frac{\frac{2}{3}\pi(r_1)^3}{\frac{2}{3}\pi(r_2)^3} = \frac{8}{27}$

$\Rightarrow \left(\frac{r_1}{r_2}\right)^3 = \left(\frac{2}{3}\right)^3 \Rightarrow r_1 : r_2 = 2 : 3$

27. (B) Cost of one book = ₹500

Profit earned on Ist book

$= \frac{27}{100} \times 500 =$ ₹135

Loss on IInd book = ₹90

Total SP of 2 books = 635 + 410

= ₹1045

CP of 2 books = ₹1000

Profit% = $\frac{135\text{-}90}{1000} \times 100$

$= \frac{45}{1000} \times 100 = \mathbf{4.5}$

28. (A) Required % $= \frac{50}{150} \times 100 = \frac{100}{3}$

$= \mathbf{33\frac{1}{3}}$

29. (B) Let the side of its base be x cm

Then, $h = 3x$.

A.T.Q.,

$x \times x \times h = 2187$

$3x^3 = 2187$

$x = 9$ cm.

T.S.A. of box = 2(9×9) + 4 (9×27)

= **1134 cm²**

30. (D) According to question, age of five friends are in order

E > B > C > **A** > D

or,

B > E > C > **A** > D

Hence, A is immediate older than the youngest.

31. (D) As,

R O M E — 2601
18 15 13 5

$(18 + 15 + 13 + 5)^2 = (51)^2 = 2601$

R I G H T — 3844
18 9 7 8 20

$(18 + 9 + 7 + 8 + 20) = (62)^2 = 3844$

Similarly,

H O M E
8 15 13 5

$(8 + 15 + 13 + 5) = (41)^2 =$ **1681**

32. (B) 9 × 7 – 64 + 8 ÷ 1

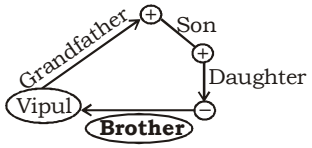
After changing the signs as per given details.

$\Rightarrow$ 9 – 7 × 64 ÷ 8 + 4

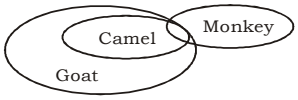
$\Rightarrow$ 9 – 7 × 8 + 4 = **–43**

33. (A)

34. (B)



35. (A)



Conclusion → I – ✓ II – ×

Hence, only conclusion I follows.

36. (A) Required number of people = 43 + 31 + 12 + 28 + 12 + 44 = 170

37. (A) As, $\sqrt{529} + 7 = 30$

and, $\sqrt{81} + 9 = 18$

Similarly, $\sqrt{289} + 7 = 24$

38. (D) The gender of B and C cannot be determined.

39. (D) Clearly, A and F are the parents of the children D and E.

40. (C) **a** c b **d** c a **d** b a c b **d** c a **d** b a c **b** d

RRB ALP - 06 (ANSWER KEY)

1. (D)	20. (D)	39. (D)	58. (A)
2. (C)	21. (A)	40. (C)	59. (D)
3. (A)	22. (D)	41. (B)	60. (A)
4. (A)	23. (D)	42. (A)	61. (A)
5. (B)	24. (B)	43. (C)	62. (A)
6. (A)	25. (A)	44. (A)	63. (D)
7. (C)	26. (D)	45. (B)	64. (B)
8. (B)	27. (B)	46. (C)	65. (A)
9. (A)	28. (A)	47. (B)	66. (C)
10. (D)	29. (B)	48. (B)	67. (A)
11. (A)	30. (D)	49. (C)	68. (A)
12. (D)	31. (D)	50. (A)	69. (D)
13. (A)	32. (B)	51. (D)	70. (C)
14. (A)	33. (A)	52. (D)	71. (B)
15. (B)	34. (B)	53. (C)	72. (A)
16. (D)	35. (A)	54. (C)	73. (D)
17. (C)	36. (A)	55. (A)	74. (C)
18. (D)	37. (A)	56. (B)	75. (B)
19. (B)	38. (D)	57. (B)	