RRB NTPC - PRACTICE SET

Answers with Explanation

1. (d)
2. (a) ACHIEVERS In Focus

Similarly

M $\xrightarrow{+2}$ O L $\xrightarrow{+2}$ N

A $\xrightarrow{+2}$ C A $\xrightarrow{+2}$ C

S $\xrightarrow{+2}$ U B $\xrightarrow{+2}$ D

T $\xrightarrow{+2}$ V O $\xrightarrow{+2}$ Q

E $\xrightarrow{+2}$ G U $\xrightarrow{+2}$ W

R $\xrightarrow{+2}$ T R $\xrightarrow{+2}$ T

3. (a)
4. (b)
5. (d)
6. (c)
7. (c)

(8-10) : ACHIEVERS In Focus

8. (b)
9. (c)
10. (b)
11. (b) $13 \times 13 - 1 = 168$

$14 \times 13 - 1 = 181$

$15 \times 13 - 1 = \boxed{194}$

12. (b)
13. (c)
14. (d) U N G I M M I C K Y

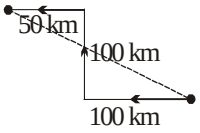
M I G N U Y K C I M

Similarly

C O M P L E X I T Y

L P M O C Y T I X E

15. (d) A^-, $B^+ \Leftrightarrow F^-$, $C^+ - E^-$ ACHIEVERS In Focus
16. (d)



ACHIEVERS In Focus

(17-18):

17. (a)
18. (c)
19. (a)
20. (b)
21. (a) $(42 - 38) = 4$; $4 \times 11 = 44$

$(28 - 23) = 5$; $5 \times 11 = 55$

Similarly,

$(39 - 37) = 2$; $2 \times 11 = 22$

22. (a)
23. (d)
24. (d) ACHIEVERS In Focus
25. (b)
26. (b) $(16 - 6)^2 + (5 - 2)^2 = 10^2 + 3^2 = 109$

$(22 - 15)^2 + (21 - 19)^2 = 7^2 + 2^2 = 53$

Similarly,

$(17 - 13)^2 + (51 - 48)^2 = 4^2 + 3^2 = 25$

27. (d) The series is baa/bba/baa/bba/baa/bb.
28. (c)
29. (a)
30. (c) $96 \div 8 \times 4 - 16 + 9 = 41$
31. (c) $\sqrt{324} + \sqrt[3]{1728}$

$= \sqrt{18 \times 18} + \sqrt[3]{12 \times 12 \times 12} = 18 + 12 = 30$

32. (c) $\because$ x = 40%

$\therefore$ Required per cent $= \frac{x}{100 - x} \times 100\%$

$= \frac{40}{100 - 40} \times 100\%$

$= \frac{40 \times 100}{60}\% = 66\frac{2}{3}\%$

33. (d)

ACHIEVERS In Focus

34. (c) Let, CP of commodity = x

$\therefore$ $524 - x = x - 452$

$\Rightarrow 2x = 524 + 452 \Rightarrow x = 976/2 = 488$

35. (c)

36. (c) Minimum distance each should cover so that all can cover the distance in complete steps

= LCM of (63, 70, 77) = 6930 cm

37. (d)

38. (d)

39. (b) Required percentage increase

$=\frac{(90-75)}{75}\times 100\% = 20\%$

40. (c) Let, a_1 and a_2 be the sides of a regular hexagon and an equilateral triangle.

$\therefore$ $6a_1 = 3a_2 \Rightarrow 2a_1 = a_2$

Thus, area of regular hexagon $=\frac{3\sqrt{3}}{2}a_1^2$ and

Area of equilateral triangle $=\frac{\sqrt{3}}{4}a_2^2 = \sqrt{3}a_1^2$

Hence, required ratio $= \frac{3\sqrt{3}}{2}a_1^2 : \sqrt{3}\,a_1^2 = 3:2$

41. (b) True weight = 1000 gm

False weight = 850 gm

$\therefore$ Profit percentage $=\frac{1000-850}{850}\times 100\% = 17\frac{11}{17}\%$

42. (a) Let, the fraction be x.

Now, according to the question,

$4x + \frac{6}{x} = 11 \Rightarrow 4x^2 + 6 = 11x$

$\Rightarrow 4x^2 - 11x + 6 = 0$

$\Rightarrow 4x^2 - 8x - 3x + 6 = 0$

$\Rightarrow 4x(x-2) - 3(x-2) = 0$

$\Rightarrow (4x - 3)(x - 2) = 0 \Rightarrow x = \frac{3}{4}$ or $x = 2$

$\therefore$ Required fraction is $\frac{3}{4}$

43. (a)

44. (a) Let, total work be 60 units

$\therefore$ A's work efficiency = 60/15 = 4 unit/day

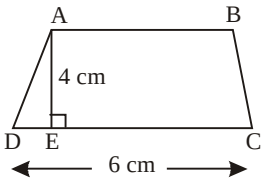
and B's work efficiency = 60/20 = 3 unit/day

$\therefore$ Work done by A and B together in 4 days

$= (4 + 3) \times 4 = 28$ units

$\therefore$ Fraction of work left $= \left(1-\frac{28}{60}\right) = \frac{32}{60} = \frac{8}{15}$

45. (b)



Area of trapezium $=\frac{1}{2}(AB+CD)\times AE$

$\Rightarrow 16 = \frac{1}{2}(AB+6)\times 4$

$\Rightarrow 32 = 4AB + 24$

$\Rightarrow AB = 2$ cm

46. (d) Average speed $=\frac{2xy}{x+y}$

$= \frac{2\times 32\times 40}{32+40} = \frac{2\times 32\times 40}{72} = 35.56$ km/h

47. (c)

48. (d) Due to stoppages, the bus covers 12 km less per hour.

Time taken to cover 12 km $= \frac{12}{72}\times 60 = 10$ min

Hence, the bus stops for 10 min per hour.

49. (d) Area of base of cone $= \pi r^2$

Let area of base $(\pi r^2) = x$

There increase of 100% in area of base.

Therefore, area of base becomes 2x

Now, original volume $=\frac{1}{3}\times \pi r^2 \times h$

$= \frac{1}{3}\times x \times h$

Increased volume $=\frac{1}{3}\times 2x \times h$

Increase in volume

$=\frac{\frac{1}{3}\times h(2x-x)}{\frac{1}{3}\times h\times x}\times 100\% = 100\%$

50. (a)

51. (c) $\frac{*}{21}\times\frac{*}{189} = 1$

$\Rightarrow *^2 = 21 \times 189$

$\Rightarrow * = \sqrt{7\times 3\times 3\times 3\times 3\times 7}$

$= 7 \times 3 \times 3 = 63$

52. (c) S.I. = 956 - 800 = ₹ 156

$\therefore$ Rate $= \frac{SI \times 100}{Principal \times Time}$ ACHIEVERS In Focus

$= \frac{156 \times 100}{800 \times 3} = 6.5\%$ per annum

$\therefore$ New rate = 10.5%

$\therefore$ S.I. $= \frac{Principal \times Time \times Rate}{100}$

$= \frac{800 \times 3 \times 10.5}{100}$ = ₹ 252

$\therefore$ Amount = 800 + 252 = ₹ 1052

53. (c) $\frac{p}{1} = \frac{q}{2} = \frac{r}{4} = k$ (let) ACHIEVERS In Focus

$\Rightarrow p = k, q = 2k, r = 4k$

$\therefore \sqrt{5p^2 + q^2 + r^2} = 5k = 5p$

54. (b)

55. (c) Distance covered in 10 minutes at 20 km/h = Distance covered in 8 minutes at (20 + x) km/h

$\Rightarrow 20 \times \frac{10}{60} = \frac{8}{60}(20 + x)$

$\Rightarrow 200 = 160 + 8x$ ACHIEVERS In Focus

$\Rightarrow 8x = 40$

$\Rightarrow x = \frac{40}{8} = 5$ km / h

56. (d) ACHIEVERS In Focus

57. (b) Let the cricketer's average of runs for his 64 innings be x runs.

$\therefore$ Total number of runs in 64 innings = 64x

According to the question,

$\frac{64x + 0}{65} = x - 2$

$\Rightarrow 64x = 65x - 130$

$\Rightarrow x = 130$

$\therefore$ New average of runs = x – 2

= 130 – 2 = 128 ACHIEVERS In Focus

58. (d) Let the sum lent to C be ₹ x

According to the question,

$\frac{2500 \times 7 \times 4}{100} + \frac{x \times 7 \times 4}{100} = 1120$

or, 2500 × 28 + 28x = 112000

or, 2500 + x = 4000

or, x = 4000 – 2500 = 1500

59. (d) Speed at upstream = $\frac{36}{6}$ = 6 km/hr.

Speed at downstream = $\frac{48}{6}$ = 8 km/hr

$\therefore$ Speed of the current = $\frac{8 - 6}{2}$

= 1 km/hr.