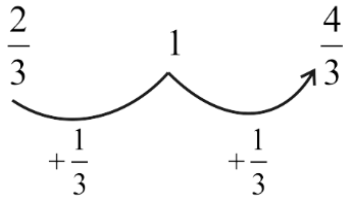


### Mathematics

26. (a);



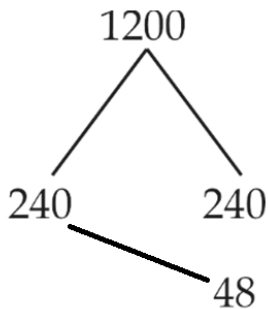
Numbers are in Arithmetic progression.

27. (c);  $2b = a + c$

$$2(3 + k) = 4$$

$$k = -1$$

28. (a);



$$CI = 480 + 48$$

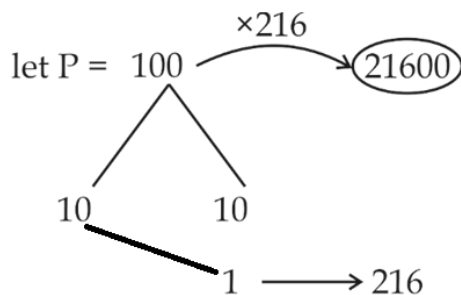
$$= 528 \text{ Rs}$$

29. (b);  $= \frac{PRT}{100}$

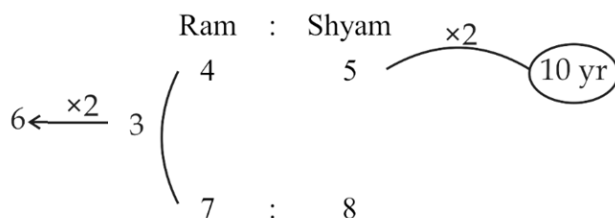
$$= 420 \times \frac{10}{100} \times 2$$

$$= 84 \text{ Rs}$$

30. (b);  $10\% = \frac{1}{10}$

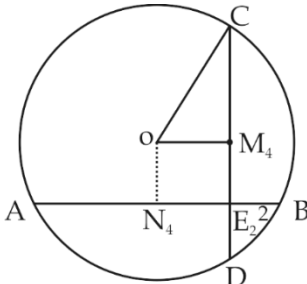


31. (b);



32. (d);  $\frac{\sin 16^\circ}{\cos(90-16^\circ)} = \frac{\sin 16^\circ}{\sin 16^\circ} = 1$

33. (c); We know



$$AE \times EB = CE \times ED$$

$$CE = \frac{4 \times 2}{2} = 4$$

$$CM = \frac{CD}{2} = 3$$

$$OM = 1$$

$$R = OC = \sqrt{3^2 + 1^2} = \sqrt{10}$$

34. (b); Volume of larger sphere =  $27 \times$  volume of smaller sphere

$$\Rightarrow \frac{4}{3} \times \pi \times 12^3 = 27 \times \frac{4}{3} \times \pi \times (r)^3$$

$$\Rightarrow r = 4 \text{ cm}$$

35. (d); Volume of sphere = Volume of cylinder

$$\Rightarrow \frac{4}{3} \times \pi \times (18)^3 = \pi \times (9)^2 \times h$$

$$\Rightarrow h = \frac{18^3 \times 4}{3 \times 9 \times 9} = 96 \text{ cm}$$

36. (b); Total surface area of hemisphere =  $3\pi r^2$

$$= 3\pi r^2$$

$$= 3 \times \frac{22}{7} \times 21 \times 21 = 4158 \text{ cm}^2$$

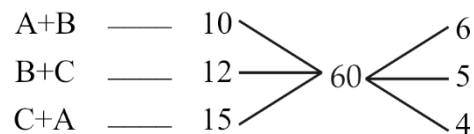
37. (a); The middle number = sum of first six number + sum of last six number - sum of all 11 numbers

$$= (6 \times 36) + (6 \times 42) - (11 \times 40)$$

$$= 216 + 252 - 440$$

$$= 28$$

38. (b);



If total work is 60 units, then work done by

$$A, B \text{ and } C \text{ in 1 day} = \frac{6+5+4}{2} = 7.5 \text{ units}$$

$$\therefore \text{number of units done by } C \text{ in 1 day} = 7.5 - 6 = 1.5 \text{ units}$$

$$\therefore \text{total days required by } C = \frac{60}{1.5} = 40 \text{ days}$$

39. (b);



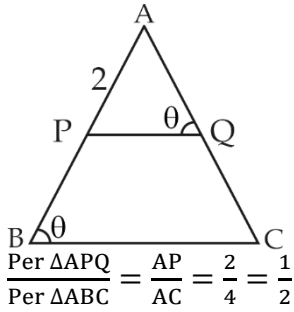
## RRB ALP STAGE-II PART B [Physics & Maths]

Memory Based Package

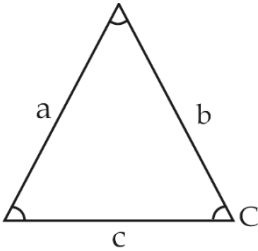
Based on Papers of 21st January 2019

1 Mock

ENGLISH @49



40. (a);

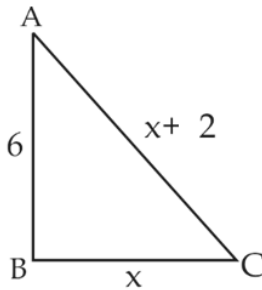


Largest side  $b^2 < a^2 + c^2$  (condition for acute angled triangle)

$$15^2 < 13^2 + 14^2$$

Acute angled triangle

41. (b);



We know

$$6^2 + x^2 = (x + 2)^2$$

$$36 + x^2 = x^2 + 4 + 4x$$

$$x = 8$$

42. (c);  $\frac{28 \times 28 + 28}{28} = 29$

43. (c);

CP	MRP
(100-10)	(100+20)
90	120
3	4
↓ ×300	↓ ×300
900 Rs	1200

44. (d);  $\Rightarrow 47 - [19 + \{37 - 20\}]$   
 $\Rightarrow 47 - \{19 + 17\}$   
 $\Rightarrow 47 - 36$   
 $\Rightarrow 11$

45. (b); Speed =  $\frac{\text{Distance}}{\text{time}} = \frac{400}{16}$   
 $= 25 \text{ m/sec} \times \frac{18}{5} = 90 \text{ km/hr}$

46. (b);  $\frac{2}{3}A = \frac{1}{6}B$

$$\frac{A}{B} = \frac{1}{4} \left. \begin{array}{l} \downarrow \\ \times 600 \end{array} \right\} \rightarrow 1800 \rightarrow \textcircled{600}$$

47. (d); Let the leakage can empty tank in  $x$  hrs

$$\therefore \frac{1}{8} - \frac{1}{x} = \frac{1}{12}$$

$$\Rightarrow \frac{1}{x} = \frac{1}{8} - \frac{1}{12} = \frac{1}{24}$$

$\therefore$  the leakage can empty the tank in 24 hrs

48. (d); Clearly,  $\frac{\text{sum of length of 100 equivalent cars}}{100} = d$

$$\Rightarrow \text{sum of length of 100 equivalent cars} = 100d$$

49. (c); Clearly,  $\frac{2}{3}$  is repeated thrice, so mode =  $\frac{2}{3}$

50. (d); Arranging heights in ascending order

162, 163, 165, 172, 180, 180, 181

$$\text{Median} = \frac{n+1}{2} \text{th term for } n = \text{odd}$$

Hence median = 172 (4<sup>th</sup> term)



**RRB ALP STAGE-II  
PART A**

Memory Based Package

Based on Papers of 21st January 2019

**1 Mock**

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