

Year	Questions	Marks
2012	10	10
2013	10	10
2014	10	10
2015	10	10
2016	10	10
<b>Total</b>	<b>50</b>	<b>50</b>

1. For a journey the cost of a child ticket is  $\frac{1}{3}^{\text{rd}}$  of the cost of an adult ticket. If the cost of the tickets for 4 adults and 5 children is ₹ 85, the cost of a child ticket is \_\_\_\_\_. [2012]  
 (A) ₹ 5                      (B) ₹ 6                      (C) ₹ 10                      (D) ₹ 15

**Ans:** D

**Solution:** For a journey the cost of a child ticket is one third of the cost of an adult ticket. The cost of a child ticket is =  $x$  & the cost of an adult ticket is =  $y$ , so  
 The cost of the tickets for 4 adults and 5 children is Rs. 85, Substituting equation (i) in (ii)  
 So, cost of an adult ticket is Rs. 15 Cost of a child ticket.

2. A dairyman pays ₹ 6.40 per litre of milk. He adds water and sells the mixture at ₹ 8 per litre, thereby making 37.5% profit. The proportion of water to milk received by the customers is [2013]  
 (A) 1 : 10                      (B) 1 : 12                      (C) 1 : 15                      (D) 1 : 20

**Ans:** A

**Solution:** Let  $x$  be litres of water be added in  $y$  litres of milk.  
 Cost Price of 1 litre milk = Rs . 6.40  
 $\Rightarrow$  Cost Price of  $y$  litres milk = Rs.  $6.40 \times y$   
 Selling Price of  $(x + y)$  litres milk = Rs.  $8(x + y) = 8x + 8y$   
 Profit = Selling Price – Cost Price = Rs  $(8x + 8y - 6.4y) = \text{Rs } (8x + 1.6y)$   
 Given that, Profit % = 37.5  
 $\text{Profit \%} = \left(\frac{\text{Profit}}{\text{CP}}\right) \times 100 \rightarrow 37.5 = \left(\frac{8x+1.6y}{6.40y}\right) \times 100$   
 $\rightarrow 37.5 \times 6.40 y = 800 x + 160 y$   
 $\rightarrow 240 y - 160 y = 800 x$   
 $\rightarrow 80 y = 800 x$   
 $\rightarrow \frac{x}{y} = \frac{80}{800} = 1:10$   
 The ratio of water to milk is 1:10

3. Tanya and Priya left Town P and travelled in opposite directions to Town Q and Town R respectively at 7:30 a.m. Tanya was travelling at a speed of 68 km/hr. while Priya was travelling at a speed of 52 km/hr. How far apart are they at 9:30 a.m.? [2014]  
 (A) 320 km                      (B) 230 km                      (C) 136 km                      (D) 240 km

**Ans:** D

**Solution:** Tanya will travel  $68 \times 2 = 136\text{km}$  in 2 hours  
 Priya will travel  $52 \times 2 = 104 \text{ km}$  in 2 hours  
 Therefore, distance between Tanya and Priya at 9:30 am =  $136 + 104 = 240\text{km}$ .

4. In the last three months Mr. Sharma lost  $5\frac{1}{2}$ kg, gained  $2\frac{1}{4}$ kg and then lost  $3\frac{3}{4}$ kg weight.

If he now weighs 95 kg, then how much did Mr. Sharma weighs in beginning?

[2015]

- (A) 100 kg                      (B) 102 kg                      (C) 106.5 kg                      (D) 104 kg

**Ans:** B

**Solution:** Lets consider his weight was x kg in beginning

$$x - 5.5 + 2.25 - 3.75 = 95$$

$$x - 7 = 95$$

$$x = 102 \text{ kg}$$

5. Mini buys  $\frac{39}{20}$  kg ghee at the rate ₹ 166 per kg,  $\frac{3}{5}$  kg butter at the rate of ₹ 90 per kg and  $\frac{9}{5}$  kg peas at the rate of ₹ 75 per kg. If she gives a ₹ 1000 note to the shopkeeper, how much change should she get back? [2016]

- (A) ₹ 487.30                      (B) ₹ 512.70                      (C) ₹ 524.70                      (D) ₹ 647.40

**Ans:** A

**Solution:** Ghee=  $\frac{39}{20} \times 166 = \text{Rs. } 323.7$

Butter=  $\frac{3}{5} \times 90 = \text{Rs. } 54$

Peas=  $\frac{9}{5} \times 75 = \text{Rs. } 135$

Adding,  $323.7 + 54 + 135 = \text{Rs. } 512.7$

So, Change=  $1000 - 512.7 = \text{Rs } 487.3$

Option A is correct answer.

6. The ratio of present ages of Rahul and Deepesh is 3 : 5. 10 years later this ratio becomes 5 : 7.

What is the present age of Deepesh?

[2012]

- (A) 20 years                      (B) 50 years                      (C) 25 years                      (D) 40 years

**Ans:** C

**Solution:** Present age of Rahul is x years and Deepesh is a y year the ratio of present ages of Rahul and Deepesh is 3:5 in a mathematical form 10 years later ratio becomes 5:7

Substituting equation (i) in (ii)

7. A fires 5 shots to B's 3 but a kills only once in 3 shots while B kills once in 2 shots.

When B has missed 27 times, A has killed

[2013]

- (A) 30 birds                      (B) 60 birds                      (C) 72 birds                      (D) 90 birds

**Ans:** A

**Solution:** Let the number of shots be x. then shots fired by A =  $\frac{5}{8}x$ , shots fired by B =  $\frac{3}{8}x$

$$\text{Killing shots by A} = \frac{1}{3} \text{ of } \frac{5}{8}x = \frac{5}{24}x$$

$$\text{Shots missed by B} = \frac{1}{2} \text{ of } \frac{3}{8}x = \frac{3}{16}x = 27 \rightarrow x = 144$$

$$\text{Birds killed by A} = \frac{5}{24}x = \frac{5}{24} \times 144 = 30$$

8. During a mass drill exercise, 6250 students of different schools are arranged in rows such that the number of students in each row is equal to the number of rows. In doing so, the instructor finds out that 9 children are left out. Find the number of children in each row. [2014]
- (A) 46 (B) 79 (C) 85 (D) 69

**Ans:** B

**Solution:**  $n \times n + 9 = 6250$

$$\rightarrow n^2 = 6241$$

$$\rightarrow n = 79$$

9. The length and the breadth of a rectangular hall are 24 m and 18 m, respectively. What is the length of the largest straight line that can be drawn on the floor of the hall? [2015]
- (A) 24 m (B) 28 m (C) 30 m (D) 34 m

**Ans:** C

**Solution:** The largest straight line can be drawn in the rectangular Hall will be the diagonal.

Using Pythagoras we can find the diagonal's length let's consider the diagonal is D,

$$D^2 = 24^2 + 18^2 = 576 + 324 = 900$$

$$D = 30 \text{ m}$$

10. 4096 soldiers are arranged in an auditorium in such manners that there are as many soldiers in a row as there are rows in the auditorium. How many rows are there in the auditorium? [2016]
- (A) 94 (B) 58 (C) 44 (D) 64

**Ans:** D

**Solution:**  $4096 = 64 \times 64$

So, 64 rows are there in auditorium

Option D is the correct answer.

11. A person wants to reduce the trade tax so he calculates his profit on the sale price instead of on the cost price. In this way by selling an article for ₹ 280 he calculates his profit as  $14\frac{2}{7}\%$ . what is the actual profit percentage? [2012]
- (A) 20% (B) 16.66% (C) 25% (D) None of these

**Ans:** B

12. Sakshi can do a piece of work in 20 days. Tanya is 25% more efficient than Sakshi. The number of days taken by Tanya to do the same piece of work is [2013]
- (A) 15 (B) 16 (C) 18 (D) 25

**Ans:** B

**Solution:** Work done by shakshi in 1 day =  $(\frac{1}{20})$

Since Tanya is 25 % efficient than Shakshi , She Completes 25% more work in a day than Shakshi,

$$\text{Therefore, Time taken by Tanya to complete work} = \left\{ \left[ \left( \frac{1}{20} \right) + \right] + \left[ \left( \frac{1}{20} \right) \times \left( \frac{25}{100} \right) \right] \right\} = 16 \text{ days}$$

13. ₹ 350 is divided among P, Q and R in the ratio 2 : 5 : 3.  
Find the amount of money that the child with the largest share got. [2014]
- (A) ₹ 175                      (B) ₹ 180                      (C) ₹ 145                      (D) ₹ 160

**Ans:** A

**Solution:** P → 2x

Q → 5x

R → 3x

→ 2x + 5x + 3x = 350

→ 10x = 350

→ x = 35

So, Q (with highest share) will get  $5x = 5 \times 35 = \text{Rs.}175$

14. A bookshop owner purchased 100 notebooks for ₹ 15 each. However, 5 notebooks had to be return as few pages were torn from them. The remaining notebooks were sold at ₹ 18 each.  
Find the gain or loss percent. [2015]
- (A) 10% gain                      (B) 14% gain                      (C) 12% loss                      (D) 8% loss

**Ans:** B

**Solution:** Cost price of the books =  $100 \times 15 = 1500$  selling price of the books =  $95 \times 18 = 1710$

Profit =  $210 / 1500 (100) = 14\%$

15. A person has to completely put each of the three liquids i.e. 403 litres of petrol, 465 litres of diesel and 496 litres of mobil oil in bottles of equal size without mixing any of the three types of liquids such that each bottle is completely filled. What is the least possible number of bottles required? [2016]
- (A) 44                      (B) 34                      (C) 31                      (D) 43

**Ans:** A

**Solution:** HCF of 403, 465, and 496 is 31

So, largest capacities of bottles are 31 liter

(1) No of bottles required for 403 liter petrol =  $403/31 = 13$

(2) No of bottles required for 465 liter diesel =  $465/31 = 15$

(3) No of bottles required for 496 liter Mobil oil =  $496/31 = 16$

Therefore, least possible number of bottles required =  $13+15+16 = 44$

Option A is correct answer

16. A rectangular tank 25cm long and 20cm wide contains water to a depth of 5cm. a metal cube of side 10cm is placed in the tank so that one face of the cube rests on the bottom of the tank.  
Find how many litres of water must be poured into the tank so as to just cover the cube? [2012]
- (A) 1 L                      (B) 1.5 L                      (C) 2 L                      (D) 2.5 L

**Ans:** B

17. Adam borrowed some money at the rate of 6% p.a. for the first two years, at the rate of 9% p.a. for the next three years, and at the rate of 14% p.a. for the period beyond five years.  
If he pays a total interest of ₹ 11,400 at the end of nine years, how much money did he borrow? [2013]  
(A) ₹ 12,000            (B) ₹ 13,000            (C) ₹ 11,000            (D) ₹ 14,000

**Ans: A**

**Solution:** Let the sum borrowed be  $x$ . then,

$$\left(x \times \frac{6}{100} \times 2\text{yrs}\right) + \left(x \times \frac{9}{100} \times 3\text{yrs}\right) + \left(x \times \frac{14}{100} \times 4\right) = 11400$$

$$\left(\frac{3x}{25}\right) + \left(\frac{27x}{100}\right) + \left(\frac{14x}{25}\right) = 11400$$

$$\left(\frac{95x}{100}\right) = 11400 \rightarrow x = 11400 \times \frac{100}{95} = 12000$$

18. Garima has 150 picture cards. Tarun has 110 picture cards. How many cards must Garima give to Tarun so that Tarun will have 4 times as many cards as Garima? [2014]  
(A) 100            (B) 140            (C) 82            (D) 98

**Ans: D**

**Solution:** Let garima give 'x' cards to Tarun.

So that Tarun will have 4 times as many cards as her, then

$$4(150 - x) = 110 + x$$

$$\rightarrow 600 - 4x = 110 + x$$

$$\rightarrow 490 = 5x$$

$$\rightarrow x = 98$$

19. Atharv bought a television set whose marked price was ₹ 45,000. He then gets a discount of 15% and pays a sales tax of 12%. How much does he pay for the television set? [2015]  
(A) ₹ 33,660            (B) ₹ 43,650            (C) ₹ 47,250            (D) ₹ 42,840

**Ans: D**

**Solution:** Price of the TV after discount =  $45,000 \times (1 - .15) = 38250$

Price after sales tax =  $38250 (1.12) = 42,840$

20. Sonika spent ₹ 45760 on the interior decoration for her home, ₹ 27896 on buying air conditioner and the remaining 28% of the total amount she had as cash with her. What was the total amount? [2016]  
(A) ₹ 98540            (B) ₹ 102300            (C) ₹ 134560            (D) cannot be determined

**Ans: B**

**Solution:** Let the total amount be Rs.  $x$

The amount spent =  $100 - 28 = 72\%$

72% of  $x$  = Rs. (45760 + 27896)

$$= 72 * x / 100 = 73656$$

$$x = 73656 * 100 / 72 = \text{Rs. } 102300.$$

Option B is the correct answer.

21. In the morning batch at 'a school' we have observed that when five students took seat on each bench, 4 students remained unseated. But when eleven students took seat per bench, 4 benches remained vacant. The numbers of students in the morning batch were? [2012]
- (A) 55                      (B) 48                      (C) 26                      (D) 44

**Ans: D**

**Solution:** At a school when 5 students seat on each bench, 4 students remained unseated  
So, when we divide a number with 5 then we get a remainder 4 in options, 44 is a number that is divided by 5 and we get a remainder 4 and quotient as 10 then There are total 8 benches in a school, when 5 students seats on a bench then 4 are remain unseated, When 11 students took seat per bench, 4 benches remained vacant. Then  $11 \times 8 = 44$ , total number of students in morning batch

22. A man walking at the speed of 4 km/hr. crosses a square field diagonally in 3 minutes. The area of the field is [2013]
- (A) 18000 m<sup>2</sup>              (B) 19000 m<sup>2</sup>              (C) 20000 m<sup>2</sup>              (D) 25000 m<sup>2</sup>

**Ans: C**

**Solution:** Speed of the man = 4 kmph =  $\frac{(4 \times 5)}{18} \text{ m/sec}$

In 3 min i.e., in 180 secs man will go =  $\frac{(20 \times 180)}{8} = 200 \text{m}$

Therefore the diagonal of the square field = 200m

Diagonal of the square = side of square  $\times \sqrt{2} = 200 \text{m}$

Side of the square  $\frac{200}{\sqrt{2}}$

Area of square = side<sup>2</sup> =  $(\frac{200}{\sqrt{2}})^2 = 20000 \text{ m}^2$

23. The digit in the tens place of a two digit number is 3 more than the digit in the units place. Let the digit at units place be b. Then the number is. [2014]
- (A) 11b + 30              (B) 10b + 30              (C) 11b + 3              (D) 10b + 3

**Ans: A**

**Solution:**

Tens	Units
A	B

Given,  $a = 3 + b$

Then, the number becomes

$$10a + b = 10(3 + b) + b$$

$$= 30 + 10b + b$$

$$= 11b + 30$$

24. A beam 9 m long, 40 cm wide and 20 cm high is made up of iron which weighs 50 kg per cubic metre. The weight of the beam is [2015]
- (A) 56 kg                      (B) 48 kg                      (C) 36 kg                      (D) 27 kg

**Ans: C**

**Solution:** the volume of rod =  $9 \times 4 \times 2 = 0.72$  cubic meter

Hence the weight of the beam =  $0.72 \times 50 = 36 \text{ kg}$

25. The compound interest earned by Suresh on a certain amount at the end of two years at the rate of 8% per annum was ₹ 1414.40. What was the total amount that Suresh got back at the end of two years in the form of principal plus interest earned? [2016]
- (A) ₹ 9414.40      (B) ₹ 9914.40      (C) ₹ 9014.40      (D) ₹ 8914.40

**Ans:** A

**Solution:** According to the question

$$P + 1414.40 = 1414.40(1 + 8/100)^2$$

So, P = Rs 8500

Therefore

$$A = \text{Rs } 8500 + \text{Rs } 1414.40 = \text{Rs } 9414.40$$

26. On the April 1, 2012 Megha's salary increased from ₹ 10,000 to ₹ 16,000. Simultaneously the rate of income tax decreased by 37.5%. So the amount of income tax paid by Megha remains constant, what is the amount of income tax paid by her? [2012]
- (A) ₹ 3000      (B) ₹ 6000      (C) ₹ 1600      (D) can't be determined

**Ans:** D

**Solution:** When megha's salary is Rs. 10,000 then income tax is paid by her = x

And when her salary become Rs. 16,000 then income tax is paid by her =

So, amount of income tax is paid by her is Rs. 100

27. A group of students decided to collect as many paise from each member of the group as is the number of members. If the total collection amounts to ₹ 59.29, the number of members in the group is [2013]
- (A) 57      (B) 67      (C) 77      (D) 87

**Ans:** C

**Solution:** Money Collected = (59.29 x 100) paise = 5929 paise

Therefore, Number of members =  $\sqrt{5929} = 77$

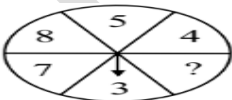
28. The cost of a chocolate is ₹ (x + 4) and Rohit bought (x + 4) chocolates. Find the total amount paid by him in terms of x. [2014]
- (A)  $x^2 + 8x + 16$       (B)  $8x^2 + 16x + 12$       (C)  $6x^2 + 2x + 14$       (D)  $8x^2 + x + 16$

**Ans:** A

**Solution:** Total amount paid = (x+4) (x+4)

$$= x^2 + 8x + 16$$

29. The probability of getting an even number on spinning the wheel is  $\frac{1}{2}$  and that of a prime number is  $\frac{4}{6}$ .



What could be the missing number on the wheel?

- (A) 1      (B) 2      (C) 4      (D) 9

[2015]

**Ans: B**

**Solution:** 2 are even as well as prime number, the missing number will be 2.

30. A man sells a book at a profit of 20%. If he had bought it at 20% less and sold it for ₹ 18 less, he would it at 20% less and sold it for ₹ 18 less; he would have gained 25%.

The cost price of the book is \_\_\_\_\_

[2016]

- (A) ₹ 80                      (B) ₹ 70                      (C) ₹ 60                      (D) ₹ 90

**Ans: D**

**Solution:** Let the price 100.

With 20% profit= 120.

Now if he purchase at 20% discount= 80

At the end he gain 25%

25% of 80 = 20...

This 20 = 18

So 100% =  $18 \times 100 / 20 = 90$

Option D is the correct answer.

31. Mr. gupta drives at a speed of 60 km/hr. for 6 hours from Chandigarh to Delhi. Mr. Verma drives his car at an average speed of 45 km/hr. for the same journey. How much time does Mr. Verma take to complete the journey?

[2012]

- (A) 7 hrs                      (B) 8 hrs                      (C) 9 hrs                      (D) 11 hrs

**Ans: B**

**Solution:** Here, Mr. Gupta drives at a speed of 60 km/hr. for 6 hours from Chandigarh to Delhi so

Speed = 60km/hr. and Time = 6 hrs. , so distance = Speed time = 360 km Mr. Verma drives his car at an average speed of 45 km/hr for the same journey means distance of 360 km.

Then time = Mr. Verma takes 8 hours to complete a journey

32. Hitesh is 40 years old and Rohit is 60 years old.

How many years ago was the ratio of their ages 3 : 5?

[2013]

- (A) 5 years                      (B) 10 years                      (C) 20 years                      (D) 37 years

**Ans: B**

**Solution:** Suppose the ratio was 3:5, 'x' years ago then  $5(40 - x) = 3(60 - x)$

$\Rightarrow 2x = 200 - 180 = 20 \Rightarrow x = 10$

33. There are 86,400 seconds in a day. How many days long is a second? Express your answer in scientific notation up to 3 decimal places.

[2014]

- (A)  $1.157 \times 10^{-6}$                       (B)  $1.234 \times 10^{-5}$                       (C)  $1.157 \times 10^{-5}$                       (D)  $1.432 \times 10^{-4}$

**Ans: C**

**Solution:** 86400 secs = 1 day

$\rightarrow 1 \text{ sec} =$

$= 1.157 \times 10^{-5} \text{ days}$



34. Each child from a certain school can make 5 items of handicraft in a day. If 1125 handicraft items are to be displayed in an exhibition, then in how many days can 25 children make these items? [2015]  
 (A) 6 days                      (B) 7 days                      (C) 8 days                      (D) 9 days

**Ans: D**

**Solution:** Number of children \* days \* number per child = 1125

$$25 * x * 5 = 1125$$

$$125 x = 1125$$

$$x = 9$$

Hence, the children would be able to make those handicrafts items in 9 days.

35. Amar wrote exams in four subjects - Physics, Chemistry, Biology and Social Studies. The ratio of marks he got in these exams was 2 : 3 : 4 : 5. He got an aggregate of 70% in these exams. Each exam had the same maximum marks. In how many of these exams did he get more than 50%? [2016]  
 (A) 1                              (B) 2                              (C) 3                              (D) 4

**Ans: C**

**Solution:** Let the max marks of each subject = y

Let the marks scored in Physics, Chemistry, Biology and social Studies = 2x, 3x, 4x, 5x

Let the total scored of all subjects = 2x+3x+4x+5x = 14x

Let the max marks of all subjects = 4y

Now,  $(14x/4y * 100)\% = 70\%$

$$14x/4y * 100 = 70$$

$$y = 5x$$

%age of marks scored in physics =  $(2x/5x * 100)\% = 40\%$

%age of marks scored in chemistry =  $(3x/5x * 100)\% = 60\%$

%age of marks scored in biology =  $(4x/5x * 100)\% = 80\%$

%age of marks scored in SST =  $(5x/5x * 100)\% = 100\%$

Got more than 50 % marks in 3 subjects. So, Option C is the correct answer.

36. The volume of a cylinder is 48.125 cm<sup>3</sup>, which is formed by rolling a rectangular paper sheet along the length of the paper. If a cuboidal box (without any lid i.e., open at the top) is made from the same sheet of paper by cutting out the square of side 0.5 cm from each of the four corners of the paper sheet, then what is the volume of this box? [2012]  
 (A) 20 cm<sup>3</sup>                      (B) 38 cm<sup>3</sup>                      (C) 19 cm<sup>3</sup>                      (D) 28 cm<sup>3</sup>

**Ans: A**

**Solution:** The volume of a cylinder is 48.125

Volume of a cylinder =

Here, 48.125 is not a perfect square, to make it perfect square value of h must be 5. So

Therefore length of a rectangular sheet = 10.99

After cutting a square of 0.5cm from each corner, the dimension of the cuboid becomes

length = 10 - 1 = 9 cm, Breadth = 5 - 1 = 4 cm & Height = 0.5 cm

Volume of a cuboid = l b h = 20 cm<sup>3</sup>

37. Monika purchased a pressure cooker at  $\left(\frac{9}{10}\right)^{th}$  of its selling price and sold it at 8% more than its S.P.  
Find her gain percent. [2013]
- (A) 20%                      (B) 10%                      (C) 30%                      (D) 40%

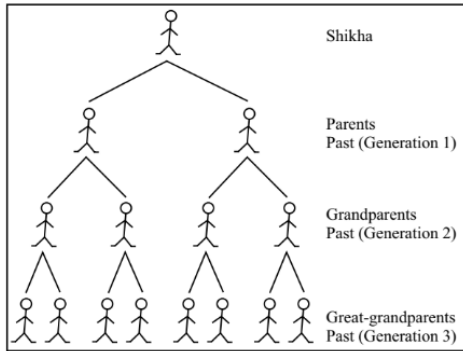
**Ans:** A

**Solution:** Cost price =  $\left(\frac{9x}{10}\right)$

Receipt =  $\frac{108}{100} \times x = \frac{27x}{25}$

Profit % =  $\frac{\text{Profit}}{\text{Cost Price}} \times 100 = \frac{\left(\frac{18x}{100}\right)}{\left(\frac{9x}{10}\right)} \times 100 = \left(\frac{18x}{100}\right) \times \left(\frac{10}{9x}\right) \times 100 = 20\%$

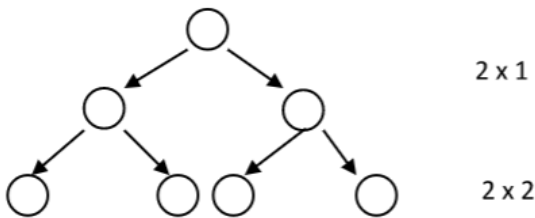
38. While studying her family's history, Shikha discovers records of ancestors 12 generations back. She wonders how many ancestors she had in the past 12 generations. She starts to make a diagram to help her figure this out. The diagram soon becomes very complex. [2014]



- Find an equation for the number of ancestors in a generation n.  
(A)  $2^n$                       (B)  $n + 2$                       (C)  $2n$                       (D)  $n/2$

**Ans:** A

**Solution:**



$n^{th}$  generation =  $2 \times 2 \times 2 \times 2 \dots n$  times =  $2^n$

39. Shikha invested ₹ 6400 for 3 years at the rate of 10% per annum compounded annually. Sneha invested the same amount at the same rate for the same time but on simple interest. Who gets more interest and by how much? [2015]
- (A) Sneha, ₹ 198.40 (B) Sneha, ₹ 146.50 (C) Shikha, ₹ 146.50 (D) Shikha, ₹ 198.40

**Ans:** D

**Solution:** Simple Interest (SI) =  $P \cdot r \cdot t = 6400 \cdot 0.1 \cdot 3 = 1920$

Compound Interest (CI) =  $P (1+r)^n - P = 6400(1.1)^3 - 6400 = 6400(1.331 - 1) = 2118.4$

Shikha will get INR 2118.4 as Interest while Sneha will get 1920 as Interest. Shikha will get INR 198.4 more than Sneha.

40. A swimming pool is 24 m long and 15 m broad, when a number of men dive into the pool, the height of the water rises by 1 cm. If the average amount of water displaced by one of the men be 0.1 cu. m, how many men are there in the pool? [2016]
- (A) 42                      (B) 46                      (C) 32                      (D) 36

**Ans:** D

**Solution:** Let the number of men who dived into the pool = x

Length of pool, l = 24 m

Breadth of pool, b = 15 m

When x men dived into the pool, then height of water rises by 1 cm

So, h = 1 cm = 0.01 m

Volume of water raised when x men dived into the pool =  $24 \times 15 \times 0.01 = 3.6 \text{ m}^3$

Volume of water displaced by 1 man = 0.1 m<sup>3</sup>

Volume of water displaced by x men = 0.1x m<sup>3</sup>

$$0.1x = 3.6$$

$$x = 36$$

Number of men dived into pool = 36

Option D is the correct answer

41. Mrs. Priya earns 18000 per month. She spends  $\frac{7}{12}$  on household items and  $\frac{1}{8}$  on rest of the things. The amount she saves is \_\_\_\_\_. [2012]
- (A) ₹ 7120                      (B) ₹ 5250                      (C) ₹ 5520                      (D) ₹ 6562.5

**Ans:** B

42. Sanket earns twice as much in the month of March as in each of the other months of the year. What part of his entire annual earnings was earned in March? [2013]
- (A)  $\frac{1}{7}$                       (B)  $\frac{1}{6}$                       (C)  $\frac{2}{11}$                       (D)  $\frac{2}{13}$

**Ans:** D

**Solution:** Let amount earned in each of the remaining 11 months be x

Then amount earned in March = twice amount in each of the other months = 2x

Thus annual income = 11 x + 2x = 13x

(Since he earns same amount in 11 months and earns twice the amount earned in remaining months in March)

$$\text{Therefore part of the annual earning earned in March} = \frac{2x}{13x} = \frac{2}{13}$$

43. One fruit salad recipe requires  $\frac{1}{2}$  cup of sugar. Another recipe for the same fruit salad requires 2 tablespoons of sugar. If 1 tablespoon is equivalent to  $\frac{1}{16}$  cup, how much more sugar does the first recipe require? [2014]
- (A)  $\frac{4}{5}$  Cup                      (B)  $\frac{6}{5}$  Cup                      (C)  $\frac{3}{8}$  Cup                      (D)  $\frac{5}{8}$  Cup

**Ans: C**

44. A man gives 40% of his money to his children and 20% of the remaining to a trust. If he is still left with ₹ 9,600, then what did he originally have? [2015]  
 (A) ₹ 14,000 (B) ₹ 19,845 (C) ₹ 20,000 (D) ₹ 25,409

**Ans: C**

**Solution:** Lets consider the man has  $100x$  as the original amount.

As 40% ( $40x$ ) was given to children he was left with  $60x$ .

now he gives 20% of  $60x = 12x$  to the trust.

The man left with  $60x - 12x = 48x$

$48x = 9,600 \Rightarrow x = 200$

Hence  $100x = 20,000$

45. Present ages of Trishika and Sanchi are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Sanchi's present age? [2016]  
 (A) 24 years (B) 27 years (C) 40 years (D) 30 years

**Ans: A**

**Solution:** Let their present age be  $5x$  and  $4x$ .

So, according to the question

$$(5x + 3) / (4x + 3) = 11/9$$

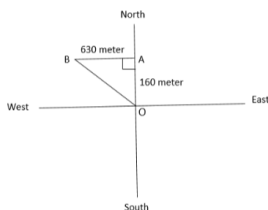
So,  $x = 6$

Therefore, age of Sanchi = 24

46. Nita walks from her house 160 metres north and from there 630 metres west to visit her friend. While coming back, she walked diagonally from her friend's house, back to her home. What distance did she walk while returning? [2012]  
 (A) 730 m (B) 800 m (C) 1250 m (D) 650 m

**Ans: D**

**Solution:**



In above figure OAB make a right angled triangle Here,  $OA = 160$  meter,  $AB = 630$  meter and we to find  $BO$  Using Pythagoras theorem, So, Nita walks 650 meter while returning home

47. A pineapple costs ₹ 7 each. A watermelon costs ₹ 5 each. X spends ₹ 38 on these fruits. The number of pineapples purchased is [2013]  
 (A) 2 (B) 3 (C) 4 (D) Data is inadequate

**Ans: C**

**Solution:** Let the number of pineapples and watermelon be  $x$  and  $y$  respectively.


Then,  $7x + 5y = 38 \rightarrow 5y = (38x - 7x) \rightarrow y = \frac{(38x-7x)}{5}$

This implies y is a whole number, only when  $(38x - 7x)$  is divisible by 5, Therefore,  $x = 4$

48. Ananya took part in a race. She ran 1.7 km, jogged for  $1\frac{2}{3}$  hours and walked the remaining 300 m of the race. If the total distance of the race was 17 km, find her jogging speed. [2014]  
 (A) 8 km/hr. (B) 12 km/hr. (C) 7 km/hr. (D) 9 km/hr.

**Ans: D**

**Solution:**



$AB + BC + CD = 17 \text{ km}$   
 $\rightarrow 1.7 + + 0.3 = 17$   
 $\rightarrow x = 9\text{km/hr.}$

49. A group of students decided to collect as many paise from each member of the group as is the number of members in the group. If the total collection amounts to ₹ 22.09, the number of members in the group is [2015]  
 (A) 37 (B) 47 (C) 39 (D) 49

**Ans: B**

**Solution:** Lets consider there are x member in the group and each shared x paise

so  $x \times x = 22.09 \text{ Rupee} = 2209 \text{ paise}$

$x^2 = 2209$

$x = 47$

50. Two pipes A and B can fill a tank in 36 hours and 45 hours respectively. If both the pipes are opened simultaneously, how much time will be taken to fill the tank? [2016]  
 (A) 20 hours (B) 18 hours (C) 25 hours (D) 19 hours

**Ans: A**

**Solution:** Part filled by A in 1 hour =  $(1/36)$ ;

Part filled by B in 1 hour =  $(1/45)$ ;

Part filled by (A + B) in 1 hour =  $(1/36) + (1/45) = (9/180) = (1/20)$

Hence, both the pipes together will fill the tank in 20 Hours.

Option A is the correct answer.