Daily Dose of Aptitude-3-07-2019

1.If each side of a square is increased by 25%, find the percentage change in its area?
a. 65.25
b. 56.25
c. 65
d. 56

2. Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is :
a. 2/9
b. 1/9
c. 8/9
d. 7/9

3. 8 couples (husband and wife) attend a dance show "Nach Baliye' in a popular TV channel ; A lucky draw in which 4 persons picked up for a prize is held, then the probability that there is atleast one couple will be selected is :
a. 8/39
b. 15/39
c. 12/13
d. None of these

4. Ratio of water and milk in a container is 2 : 3. If 40 liter mixture removed from the container and same quantity of milk is added to it then the ratio of water to milk becomes 1 : 4. Find the initial quantity of mixture ?
a. 75 lit
b. 80 lit
c. 85 lit
d. 90 lit

5. If 20% of a = b, then b% of 20 is the same as :
a. 4% of a
b. 6% of a
c. 8% of a
d. 10% of a

6. 405 sweets were distributed equally among children in such a way that the number of sweets received by each child is 20% of the total number of children. How many sweets did each child recieve ?
a. 9
b. 11
c. 10
d. 12

7. A boat takes 19 hours for travelling downstream from point A to point B and coming back to a point C which is at midway between A and B. If the velocity of the stream is 4 kmph and the speed of the boat in still water is 14 kmph, what is the distance between A and B ?

a. 120 km
b. 140 km
c. 160 km
d. 180 km

8. A, B and C can do a piece of work in 24 days, 30 days and 40 days respectively. They began the work together but C left 4 days before the completion of the work. In how many days was the work completed?

a. 11 days
b. 12 days
c. 13 days
d. 14 days

9. A tank has an inlet and outlet pipe. The inlet pipe fills the tank completely in 2 hours when the outlet pipe is plugged. The outlet pipe empties the tank completely in 6 hours when the inlet pipe is pluggeed. If there is a lekage also which is capable of draining out the liquid from the tank at half of the rate of outet pipe,them what is the time taken to fill the emty tank when both the pipes are opened?

a. 3 hours
b. 4 hours
c. 5 hours
d. None of these

10. Kaushalya can do a work in 20 days, while kaikeyi can do the same work in 25 days. They started the work jointly.Few days later Sumitra also joined them and thus all of them completed the whole work in 10 days. All of them were paid total Rs.700. What is the Share of Sumitra?

a. Rs.130
b.Rs.70
c.Rs.185
d.Can't be determined

Answers and Solutions

Ans 1:b

Sol: let each side of the square be a , then area = a2
As given that The side is increased by 25%, then
New side = 125a/100 = 5a/4
New area = $(5a/4)^2$
Increased area= $[25a^2/16]-a^2$
Increase %=$[9a^2/16]a^2$*100 % = 56.25%

Ans 2:b
Sol: One person can select one house out of 3= 3C1 ways =3.
Hence, three persons can select one house out of 3 in 3 x 3 x 3 =9.
Therefore, probability that all thre apply for the same house is 1/9

Ans 3: b
Sol: P(selecting atleast one couple) = 1 - P(selecting none of the couples for the prize)
= 1−[(16C1× 14C1×12C1×10C1) / 16C4]=15 / 39

Ans 4: b
Sol: From the given data,
let the initial quantity of the mixture = 5x
Then,
2x – 16 / 3x − 24 + 40 = 1 / 4
8x − 64 = 3x + 16
5x = 80
x = 16 lit
Then the initial quantity of the mixture = 5x = 5 x 16 = 80 lit.

Ans 5: a
Sol: 20% of a = b => (20/100)a = b
b% of 20 =(b/100) x 20 = (20a/100) x (1/100) x (20) = 4a/100 = 4% of a.

Ans 6: a
Sol: Let the total number of children be x.
Then, x * (20% of x) = 405
=> x * 20x/100 = 405
15x2 = 405
=> x=45
Number of sweets received by each child = 20% of 45 = 9.

Ans 7: d
Sol: Speed in downstream = (14 + 4) km/hr = 18 km/hr;
Speed in upstream = (14 – 4) km/hr = 10 km/hr.
Let the distance between A and B be x km. Then,
x/18 + (x/2)/10 = 19 ⇔ x/18 + x/20 = 19 ⇒ x = 180 km.

Ans 8: a
Sol: One day's work of A, B and C = (1/24 + 1/30 + 1/40) = 1/10.
C leaves 4 days before completion of the work, which means only A and B work during the last 4 days.
Work done by A and B together in the last 4 days = 4 (1/24 + 1/30) = 3/10.
Remaining Work = 7/10, which was done by A,B and C in the initial number of days.
Number of days required for this initial work = 7 days.
Thus, the total numbers of days required = 4 + 7 = 11 days.

Ans 9: b

Sol: Rate of leakage = 8.33% per hour

Net efficiency = 50 - (16.66 + 8.33)= 25%

Time required = 100/25 = 4 hours

Ans 10: c

Sol: Efficiency of kaushalya = 5%

Efficiency of kaikeyi = 4%

Thus, in 10 days working together they will complete only 90% of the work.

[(5+4)*10] =90

Hence, the remaining work will surely done by sumitra, which is 10%.

Thus, Sumitra will get 10% of Rs. 700, which is Rs.70.