Book For

Central Warehousing Corporation

CWC Asistant Aptitude Sample Paper

(1) A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

[A] Rs. 375

[B] Rs. 400

[C] Rs. 600

[D] Rs. 800

Answer : [B]

Explanation:

C's 1 day's work = $\frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$.

A's wages : B's wages : C's wages = $\frac{1}{6} : \frac{1}{8} : \frac{1}{24}$ = 4 : 3 : 1.

$\therefore$ C's share (for 3 days) = Rs. $\left(3 \times \frac{1}{24} \times 3200\right)$ = Rs. 400.

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(2) A machine P can print one lakh books in 8 hours, machine Q can print the same number of books in 10 hours while machine R can print them in 12 hours. All the machines are started at 9 A.M. while machine P is closed at 11 A.M. and the remaining two machines complete work. Approximately at what time will the work (to print one lakh books) be finished ?

[A] 11:30 A.M.

[B] 12 noon

[C] 12:30 P.M.

[D] 1:00 P.M.

Answer : [D]

Explanation:

(P + Q + R)'s 1 hour's work = $\left(\frac{1}{8} + \frac{1}{10} + \frac{1}{12}\right) = \frac{37}{120}$.

Work done by P, Q and R in 2 hours = $\left(\frac{37}{120} \times 2\right) = \frac{37}{60}$.

Remaining work = $\left(1 - \frac{37}{60}\right) = \frac{23}{60}$.

(Q + R)'s 1 hour's work = $\left(\frac{1}{10} + \frac{1}{12}\right) = \frac{11}{60}$.

Now, $\frac{11}{60}$ work is done by Q and R in 1 hour.

So, $\frac{23}{60}$ work will be done by Q and R in $\left(\frac{60}{11} \times \frac{23}{60}\right) = \frac{23}{11}$ hours $\approx$ 2 hours.

So, the work will be finished approximately 2 hours after 11 A.M., i.e., around 1 P.M.

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(3) A and B can together finish a work 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. In how many days A alone can finish the work?

[A] 40

[B] 50

[C] 54

[D] 60

Answer : [D]

Explanation:

(A + B)'s 20 day's work = $\left(\frac{1}{30} \times 20\right) = \frac{2}{3}$.

Remaining work = $\left(1 - \frac{2}{3}\right) = \frac{1}{3}$.

Now, $\frac{1}{3}$ work is done by A in 20 days.

Therefore, the whole work will be done by A in (20 x 3) = 60 days.

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(4) A is 30% more efficient than B. How much time will they, working together, take to complete a job which A alone could have done in 23 days?

[A] 11 days

[B] 13 days

[C]

$20\frac{3}{17}$ days

[D] None of these

Answer : [B]

Explanation:
Ratio of times taken by A and B = 100 : 130 = 10 : 13.
Suppose B takes x days to do the work.
Then, 10 : 13 :: 23 : x $\Rightarrow$ $x = \left(\frac{23 \times 13}{10}\right)$ $\Rightarrow$ $x = \frac{299}{10}$.

A's 1 day's work = $\frac{1}{23}$;

B's 1 day's work = $\frac{10}{299}$.

(A + B)'s 1 day's work = $\left(\frac{1}{23} + \frac{10}{299}\right) = \frac{23}{299} = \frac{1}{13}$.

Therefore, A and B together can complete the work in 13 days.

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(5) Twenty women can do a work in sixteen days. Sixteen men can complete the same work in fifteen days. What is the ratio between the capacity of a man and a woman?

[A] 3 : 4

[B] 4 : 3

[C] 5 : 3

[D] Data inadequate

Answer : [B]

Explanation:
(20 x 16) women can complete the work in 1 day.
$\therefore$ 1 woman's 1 day's work = $\frac{1}{320}$.

(16 x 15) men can complete the work in 1 day.
$\therefore$ 1 man's 1 day's work = $\frac{1}{240}$

So, required ratio = $\frac{1}{240} : \frac{1}{320}$

= $\frac{1}{3} : \frac{1}{4}$

= 4 : 3 (cross multiplied)

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(6) A batsman scored 110 runs which included 3 boundaries and 8 sixes. What percent of his total score did he make by running between the wickets?

[A] 45%

[B] $45\frac{5}{11}\%$

[C] $54\frac{6}{11}\%$

[D] 55%

Answer : [B]

Explanation:
Number of runs made by running = 110 - (3 x 4 + 8 x 6)
= 110 - (60)
= 50.
$\therefore$ Required percentage = $\left(\frac{50}{110} \times 100\right)\% = 45\frac{5}{11}\%$

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(7) Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are:

[A] 39, 30

[B] 41, 32

[C] 42, 33

[D] 43, 34

Answer : [C]

Explanation:
Let their marks be $(x + 9)$ and x.
Then, $x + 9 = \frac{56}{100}(x + 9 + x)$

$\Rightarrow 25(x + 9) = 14(2x + 9)$
$\Rightarrow 3x = 99$
$\Rightarrow x = 33$
So, their marks are 42 and 33.

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(8) If 20% of *a* = *b*, then *b*% of 20 is the same as:

[A] 4% of *a*

[B] 5% of *a*

[C] 20% of *a*

[D] None of these

Answer : [A]

Explanation:
20% of $a = b \Rightarrow \frac{20}{100}a = b$.

$\therefore$ $b\%$ of $20 = \left(\frac{b}{100} \times 20\right) = \left(\frac{20}{100}a \times \frac{1}{100} \times 20\right) = \frac{4}{100}a = 4\%$ of a.

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(9) In a certain school, 20% of students are below 8 years of age. The number of students above 8 years of age is $\frac{2}{3}$ of the number of students of 8 years of age which is 48. What is the total number of students in the school?

[A] 72

[B] 80

[C] 120

[D] 150

[E] 100

Answer : [E]

Explanation:
Let the number of students be x. Then,
Number of students above 8 years of age = (100 - 20)% of x = 80% of x.
$\therefore$ 80% of x = 48 + $\frac{2}{3}$ of 48

$\Rightarrow \frac{80}{100}x = 80$

$\Rightarrow x = 100$.

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(10) Rajeev buys good worth Rs. 6650. He gets a rebate of 6% on it. After getting the rebate, he pays sales tax @ 10%. Find the amount he will have to pay for the goods.

[A] Rs. 6876.10

[B] Rs. 6999.20

[C] Rs. 6654

[D] Rs. 7000

Answer : [A]

Explanation:
Rebate = 6% of Rs. 6650 = Rs. $\left(\frac{6}{100} \times 6650\right)$ = Rs. 399.

Sales tax = 10% of Rs. (6650 - 399) = Rs. $\left(\frac{10}{100} \times 6251\right)$ = Rs. 625.10

$\therefore$ Final amount = Rs. (6251 + 625.10) = Rs. 6876.10

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(11) Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

[A] 210

[B] 1050

[C] 25200

[D] 21400

[E] None of these

Answer : [C]

Explanation:
Number of ways of selecting (3 consonants out of 7) and (2 vowels out of 4)
$= ({}^{7}C_3 \times {}^{4}C_2)$

$= \left(\frac{7 \times 6 \times 5}{3 \times 2 \times 1} \times \frac{4 \times 3}{2 \times 1}\right)$

$= 210$.

Number of groups, each having 3 consonants and 2 vowels = 210.
Each group contains 5 letters.
Number of ways of arranging 5 letters among themselves $= 5!$

$= 5 \times 4 \times 3 \times 2 \times 1$

$= 120$.

∴ Required number of ways = (210 x 120) = 25200.

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(12) In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?

[A] 360

[B] 480

[C] 720

[D] 5040

[E] None of these

Answer : [C]

Explanation:
The word 'LEADING' has 7 different letters.
When the vowels EAI are always together, they can be supposed to form one letter.
Then, we have to arrange the letters LNDG (EAI).
Now, 5 (4 + 1 = 5) letters can be arranged in 5! = 120 ways.
The vowels (EAI) can be arranged among themselves in 3! = 6 ways.
∴ Required number of ways = (120 x 6) = 720.

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(13) In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?

[A] 32

[B] 48

[C] 36

[D] 60

[E] 120

Answer : [C]

Explanation:
There are 6 letters in the given word, out of which there are 3 vowels and 3 consonants.
Let us mark these positions as under:
(1) (2) (3) (4) (5) (6)
Now, 3 vowels can be placed at any of the three places out 4, marked 1, 3, 5.
Number of ways of arranging the vowels = ${}^{3}P_{3}$ = 3! = 6.
Also, the 3 consonants can be arranged at the remaining 3 positions.
Number of ways of these arrangements = ${}^{3}P_{3}$ = 3! = 6.
Total number of ways = (6 x 6) = 36.

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(14) In how many ways a committee, consisting of 5 men and 6 women can be formed from 8 men and 10 women?

[A] 266

[B] 5040

[C] 11760

[D] 86400

[E] None of these

Answer : [C]

Explanation:
Required number of ways $= ({}^{8}C_{5} \times {}^{10}C_{6})$

$= ({}^{8}C_{3} \times {}^{10}C_{4})$

$= \left(\frac{8 \times 7 \times 6}{3 \times 2 \times 1} \times \frac{10 \times 9 \times 8 \times 7}{4 \times 3 \times 2 \times 1}\right)$

= 11760.

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(15) In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?

[A] 120

[B] 720

[C] 4320

[D] 2160

[E] None of these

Answer : [B]

Explanation:
The word 'OPTICAL' contains 7 different letters.
When the vowels OIA are always together, they can be supposed to form one letter.
Then, we have to arrange the letters PTCL (OIA).
Now, 5 letters can be arranged in 5! = 120 ways.
The vowels (OIA) can be arranged among themselves in 3! = 6 ways.
∴ Required number of ways = (120 x 6) = 720.

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(16) An error 2% in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is:

[A] 2%

[B] 2.02%

[C] 4%

[D] 4.04%

Answer : [D]

Explanation:
100 cm is read as 102 cm.
∴ A_1 = (100 x 100) cm^2 and A_2 (102 x 102) cm^2.
$(A_2 - A_1) = [(102)^2 - (100)^2]$
= (102 + 100) x (102 - 100)
= 404 cm^2.
∴ Percentage error = $\left(\frac{404}{100 \times 100} \times 100\right)_{\%}$ = 4.04%

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(17) The percentage increase in the area of a rectangle, if each of its sides is increased by 20% is:

[A] 40%

[B] 42%

[C] 44%

[D] 46%

Answer : [C]

Explanation:
Let original length = x metres and original breadth = y metres.
Original area = (xy) m^2.
New length = $\left(\frac{120}{100}x\right)_m = \left(\frac{6}{5}x\right)_m$.

New breadth = $\left(\frac{120}{100}y\right)_m = \left(\frac{6}{5}y\right)_m$.

6 6 36

New Area = $\left(\frac{x}{5} \times \frac{y}{5}\right)_{m^2} = \left(\frac{xy}{25}\right)_{m^2}$.

The difference between the original area = xy and new-area 36/25 xy is
= (36/25)xy - xy
= xy(36/25 - 1)
= xy(11/25) or (11/25)xy
$\therefore$ Increase % = $\left(\frac{11}{25}xy \times \frac{1}{xy} \times 100\right)_{\%}$ = 44%.

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(18) A towel, when bleached, was found to have lost 20% of its length and 10% of its breadth. The percentage of decrease in area is:

[A] 10%

[B] 10.08%

[C] 20%

[D] 28%

Answer : [D]

Explanation:
Let original length = x and original breadth = y.
Decrease in area = $xy - \left(\frac{80}{100}x \times \frac{90}{100}y\right)$

$= \left(xy - \frac{18}{25}xy\right)$

$= \frac{7}{25}xy$.

$\therefore$ Decrease % = $\left(\frac{7}{25}xy \times \frac{1}{xy} \times 100\right)_{\%}$ = 28%.

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(19) The length of a rectangular plot is 20 metres more than its breadth. If the cost of fencing the plot @ 26.50 per metre is Rs. 5300, what is the length of the plot in metres?

[A] 40

[B] 50

[C] 120

[D] Data inadequate

[E] None of these

Answer : [E]

Explanation:
Let breadth = x metres.
Then, length = $(x + 20)$ metres.
Perimeter = $\left(\frac{5300}{26.50}\right)$ m = 200 m.

$\therefore$ $2[(x + 20) + x] = 200$
$\Rightarrow 2x + 20 = 100$
$\Rightarrow 2x = 80$
$\Rightarrow x = 40$.
Hence, length = $x + 20$ = 60 m.

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(20) A rectangular field is to be fenced on three sides leaving a side of 20 feet uncovered. If the area of the field is 680 sq. feet, how many feet of fencing will be required?

[A] 34

[B] 40

[C] 68

[D] 88

Answer : [D]

Explanation:
We have: $l = 20$ ft and $lb = 680$ sq. ft.
So, $b = 34$ ft.
$\therefore$ Length of fencing = $(l + 2b) = (20 + 68)$ ft = 88 ft.
