Book For

Central Warehousing Corporation

CWC MT (General) Aptitude Sample Paper

(1) If selling price is doubled, the profit triples. Find the profit percent.

[A] $66\frac{2}{3}$

[B] 100

[C] $105\frac{1}{3}$

[D] 120

Answer : [B]

Explanation:
Let C.P. be Rs. x and S.P. be Rs. y.
Then, $3(y - x) = (2y - x) \Rightarrow y = 2x$.
Profit = Rs. $(y - x)$ = Rs. $(2x - x)$ = Rs. x.
$\therefore$ Profit % = $\left(\frac{x}{x} \times 100\right)\% = 100\%$

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(2) The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is:

[A] 15

[B] 16

[C] 18

[D] 25

Answer : [B]

Explanation:
Let C.P. of each article be Re. 1 C.P. of x articles = Rs. x.
S.P. of x articles = Rs. 20.
Profit = Rs. $(20 - x)$.
$\therefore \left(\frac{20 - x}{x} \times 100 = 25\right)$

$\Rightarrow 2000 - 100x = 25x$
$125x = 2000$
$\Rightarrow x = 16$.

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(3) The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit?

[A] Rs. 2000

[B] Rs. 2200

[C] Rs. 2400

[D] Data inadequate

Answer : [A]

Explanation:
Let C.P. be Rs. x.
Then, $\frac{1920 - x}{x} \times 100 = \frac{x - 1280}{x} \times 100$

$\Rightarrow 1920 - x = x - 1280$
$\Rightarrow 2x = 3200$
$\Rightarrow x = 1600$
$\therefore$ Required S.P. = 125% of Rs. 1600 = Rs. $\left(\frac{125}{100} \times 1600\right)$ = Rs 2000.

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(4) A shopkeeper sells one transistor for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of 4%. His total gain or loss percent is:

[A]
$5\frac{15}{17}$% loss

[B]
$5\frac{15}{17}$% gain

[C]
$6\frac{2}{3}$% gain

[D] None of these

Answer : [B]

Explanation:

C.P. of 1st transistor = Rs. $\left(\frac{100}{120} \times 840\right)$ = Rs. 700.

C.P. of 2nd transistor = Rs. $\left(\frac{100}{96} \times 960\right)$ = Rs. 1000

So, total C.P. = Rs. (700 + 1000) = Rs. 1700.
Total S.P. = Rs. (840 + 960) = Rs. 1800.
$\therefore$ Gain % = $\left(\frac{100}{1700} \times 100\right)_{\%} = 5\frac{15}{17}\%$

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(5) If 3 $\sqrt{5}$ + $\sqrt{125}$ = 17.88, then what will be the value of $\sqrt{80}$ + 6 $\sqrt{5}$?

[A] 13.41

[B] 20.46

[C] 21.66

[D] 22.35

Answer : [D]

Explanation:
3 $\sqrt{5}$ + $\sqrt{125}$ = 17.88
$\Rightarrow$ 3 $\sqrt{5}$ + $\sqrt{25 \times 5}$ = 17.88
$\Rightarrow$ 3 $\sqrt{5}$ + 5 $\sqrt{5}$ = 17.88
$\Rightarrow$ 8 $\sqrt{5}$ = 17.88
$\Rightarrow$ $\sqrt{5}$ = 2.235
$\therefore$ $\sqrt{80}$ + 6 $\sqrt{5}$ = $\sqrt{16 \times 5}$ + 6 $\sqrt{5}$
= 4 $\sqrt{5}$ + 6 $\sqrt{5}$
= 10 $\sqrt{5}$ = (10 x 2.235) = 22.35

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(6) $\sqrt{1.5625}$ = ?

[A] 1.05

[B] 1.25

[C] 1.45

[D] 1.55

Answer : [B]

Explanation:

```
   1|1.5625( 1.25
      |1
      |-------
    22| 56
      | 44
      |-------
   245| 1225
      | 1225
      |-------
      |
      X
      |-------
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$\therefore$ $\sqrt{1.5625}$ = 1.25.

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(7) The cube root of .000216 is:

[A] .6

[B] .06

[C] 77

[D] 87

Answer : [B]

Explanation:

$(.000216)^{1/3} = \left(\frac{216}{10^6}\right)^{1/3}$

$= \left(\frac{6 \times 6 \times 6}{10^2 \times 10^2 \times 10^2}\right)^{1/3}$

$= \frac{6}{10^2}$

$= \frac{6}{100}$

$= 0.06$

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(8) The square root of (7 + 3 5) (7 - 3 5) is

[A] 5

[B] 2

[C] 4

[D]

3 5

Answer : [B]

Explanation:

(7 + 3 5)(7 - 3 5) = $(7)^2 - (3\ 5)^2$ = 49 - 45 = 4 = 2.

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(9)

If 5 = 2.236, then the value of $\frac{5}{2} - \frac{10}{5} +$ 125 is equal to:

[A] 5.59

[B] 7.826

[C] 8.944

[D] 10.062

Answer : [B]

Explanation:

$\frac{5}{2} - \frac{10}{5} +$ 125 = $\frac{(5)^2 - 20 + 2\ 5 \times 5\ 5}{2\ 5}$

$= \frac{5 - 20 + 50}{2\ 5}$

$= \frac{35}{2\ 5} \times \frac{5}{5}$

$= \frac{35\ 5}{10}$

$= \frac{7 \times 2.236}{2}$

$= 7 \times 1.118$

= 7.826

(10)
$\left(3 - \frac{1}{3}\right)^2$ simplifies to:

[A]
$\frac{3}{4}$

[B]
$\frac{4}{3}$

[C]
$\frac{4}{3}$

[D] None of these

Answer : [C]

Explanation:
$\left(3 - \frac{1}{3}\right)^2 = (3)^2 + \left(\frac{1}{3}\right)^2 - 2 \times 3 \times \frac{1}{3}$

$= 3 + \frac{1}{3} - 2$

$= 1 + \frac{1}{3}$

$= \frac{4}{3}$

(11) Three times the first of three consecutive odd integers is 3 more than twice the third. The third integer is:

[A] 9

[B] 11

[C] 13

[D] 15

Answer : [D]

Explanation:
Let the three integers be x, $x + 2$ and $x + 4$.
Then, $3x = 2(x + 4) + 3 \Leftrightarrow x = 11$.
$\therefore$ Third integer = $x + 4 = 15$.

(12) The difference between a two-digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

[A] 3

[B] 4

[C] 9

[D] Cannot be determined

[E] None of these

Answer : [B]

Explanation:
Let the ten's digit be x and unit's digit be y.

Then, $(10x + y) - (10y + x) = 36$
$\Rightarrow 9(x - y) = 36$
$\Rightarrow x - y = 4$.

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(13) The sum of the squares of three numbers is 138, while the sum of their products taken two at a time is 131. Their sum is:

[A] 20

[B] 30

[C] 40

[D] None of these

Answer : [A]

Explanation:
Let the numbers be a, b and c.
Then, $a^2 + b^2 + c^2 = 138$ and $(ab + bc + ca) = 131$.
$(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca) = 138 + 2 \times 131 = 400$.
$\Rightarrow (a + b + c) = \sqrt{400} = 20$.

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(14) The sum of the digits of a two-digit number is 15 and the difference between the digits is 3. What is the two-digit number?

[A] 69

[B] 78

[C] 96

[D] Cannot be determined

[E] None of these

Answer : [D]

Explanation:
Let the ten's digit be x and unit's digit be y.
Then, $x + y = 15$ and $x - y = 3$ or $y - x = 3$.
Solving $x + y = 15$ and $x - y = 3$, we get: $x = 9$, $y = 6$.
Solving $x + y = 15$ and $y - x = 3$, we get: $x = 6$, $y = 9$.
So, the number is either 96 or 69.
Hence, the number cannot be determined.

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(15) A number consists of 3 digits whose sum is 10. The middle digit is equal to the sum of the other two and the number will be increased by 99 if its digits are reversed. The number is:

[A] 145

[B] 253

[C] 370

[D] 352

Answer : [B]

Explanation:
Let the middle digit be x.
Then, $2x = 10$ or $x = 5$. So, the number is either 253 or 352.
Since the number increases on reversing the digits, so the hundred's digits is smaller than the unit's digit.
Hence, required number = 253.

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(16) Three pipes A, B and C can fill a tank from empty to full in 30 minutes, 20 minutes, and 10 minutes respectively. When the tank is empty, all the three pipes are opened. A, B and C discharge chemical solutions P,Q and R respectively. What is the proportion of the solution R in the liquid in the tank after 3 minutes?

[A]

$\frac{5}{11}$

[B]
$\frac{6}{11}$

[C]
$\frac{7}{11}$

[D]
$\frac{8}{11}$

Answer : [B]

Explanation:

Part filled by (A + B + C) in 3 minutes = $3\left(\frac{1}{30}+\frac{1}{20}+\frac{1}{10}\right)=\left(3\times\frac{11}{60}\right)=\frac{11}{20}$.

Part filled by C in 3 minutes = $\frac{3}{10}$.

$\therefore$ Required ratio = $\left(\frac{3}{10}\times\frac{20}{11}\right)=\frac{6}{11}$.

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(17) Two pipes A and B together can fill a cistern in 4 hours. Had they been opened separately, then B would have taken 6 hours more than A to fill the cistern. How much time will be taken by A to fill the cistern separately?

[A] 1 hour

[B] 2 hours

[C] 6 hours

[D] 8 hours

Answer : [C]

Explanation:

Let the cistern be filled by pipe A alone in x hours.
Then, pipe B will fill it in $(x + 6)$ hours.

$\therefore \frac{1}{x}+\frac{1}{(x+6)}=\frac{1}{4}$

$\Rightarrow \frac{x+6+x}{x(x+6)}=\frac{1}{4}$

$\Rightarrow x^2 - 2x - 24 = 0$
$\Rightarrow (x - 6)(x + 4) = 0$
$\Rightarrow x = 6.$ [neglecting the negative value of x]

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(18) Two pipes can fill a tank in 20 and 24 minutes respectively and a waste pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. The capacity of the tank is:

[A] 60 gallons

[B] 100 gallons

[C] 120 gallons

[D] 180 gallons

Answer : [C]

Explanation:

Work done by the waste pipe in 1 minute = $\frac{1}{15}-\left(\frac{1}{20}+\frac{1}{24}\right)$

$=\left(\frac{1}{15}-\frac{11}{120}\right)$

$=-\frac{1}{}$. [-ve sign means emptying]

40

$\therefore$ Volume of $\frac{1}{40}$ part = 3 gallons.

Volume of whole = (3 x 40) gallons = 120 gallons.

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(19) Two pipes A and B can fill a tank in 15 minutes and 20 minutes respectively. Both the pipes are opened together but after 4 minutes, pipe A is turned off. What is the total time required to fill the tank?

[A] 10 min. 20 sec.

[B] 11 min. 45 sec.

[C] 12 min. 30 sec.

[D] 14 min. 40 sec.

Answer : [D]

Explanation:

Part filled in 4 minutes = $4\left(\frac{1}{15} + \frac{1}{20}\right) = \frac{7}{15}$.

Remaining part = $\left(1 - \frac{7}{15}\right) = \frac{8}{15}$.

Part filled by B in 1 minute = $\frac{1}{20}$

$\therefore$ $\frac{1}{20} : \frac{8}{15} :: 1 : x$

$x = \left(\frac{8}{15} \times 1 \times 20\right) = 10\frac{2}{3}$ min = 10 min. 40 sec.

$\therefore$ The tank will be full in (4 min. + 10 min. + 40 sec.) = 14 min. 40 sec.

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(20) Three pipes A, B and C can fill a tank in 6 hours. After working at it together for 2 hours, C is closed and A and B can fill the remaining part in 7 hours. The number of hours taken by C alone to fill the tank is:

[A] 10

[B] 12

[C] 14

[D] 16

Answer : [C]

Explanation:

Part filled in 2 hours = $\frac{2}{6} = \frac{1}{3}$

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

$\therefore$ (A + B)'s 7 hour's work = $\frac{2}{3}$

(A + B)'s 1 hour's work = $\frac{2}{21}$

$\therefore$ C's 1 hour's work = { (A + B + C)'s 1 hour's work } - { (A + B)'s 1 hour's work }

$= \left(\frac{1}{6} - \frac{2}{21}\right) = \frac{1}{14}$

$\therefore$ C alone can fill the tank in 14 hours.
