Quant Mega Quiz for SSC CGL Tier-II (Solutions)

S1. Ans.(c)

Sol. Successive discount of 40

$= x + x - \frac{x \times x}{100}$

$= 40 + 40 - \frac{40 \times 40}{100}$

$= 80 - 16$

$= 64$

2nd method

Let CP = 100

Now 2 discount of 40

$SP = 100 \times \frac{60}{100} \times \frac{60}{100} = 36$

Discount = (100 – 36) = 64

S2. Ans.(d)

Sol. 1 packet → 16 Rs.

4 packet → 4 × 16 = Rs. 64 → M.P.

S.P. → 56 Rs.

$\text{Discount\%} = \frac{8}{64} \times 100 = 12.5\%$

S3. Ans.(d)

Sol. Price for 10 chairs = $10 \times 200 = 2000$

Price of 12 chairs (without discount) = 12 × 200

= 2400

Price of 12 chairs with discount = 10 × 200 + 2 × 80

= 2160

∴ Discount = 2400 – 2160 = 240

$\text{Discount\%} = \frac{24}{2400} \times 100 = 10\%$

S4. Ans.(c)

Sol. Cost price of Ruby stone = Rs. 1600

Cost price of Ring = Rs. 2400

Actual cost price = Rs. 4000

$\text{Selling price} = \text{Rs.}\left(7800 \times \frac{90}{100}\right) = \text{Rs. } 7020$

$\text{Profit percent} = \frac{7020-4000}{4000} \times 100 = 75.5\%$

S5. Ans.(c)
Sol. Given
MP = 25000&
SP = 18000
S.P = MP $\times \left(\frac{100-D}{100}\right)$,
$25000 \times \left(\frac{100-D}{100}\right) = 18000$
2500 – 25D = 1800
25D = 700
D = 28%

S6. Ans.(d)
Sol. Cost price = Rs. 2400
Selling price = $2400 \times \frac{120}{100} = \text{Rs. } 2880$
So, marked price = $2880 \times \frac{100}{90} = \text{Rs. } 3200$
If discount on selling price = Rs. 288
Required difference = Rs. (320 – 288) = Rs. 32

S7. Ans.(b)
Sol.

CP	SP	MP
x	112.5x = 225	300

(−25%)

∴ x = 200, hence the cost price be Rs. 200.

S8. Ans.(c)
Sol. GIVEN
MP = 10,000
SP = 8,360
D_1 = 12%
D_2 = ?
Go by series operation
MP $\times \left(\frac{100-D_1}{100}\right) \times \left(\frac{100-D_2}{100}\right)$ = SP
$10{,}000 \times \left(\frac{100-D_1}{100}\right) \times \left(\frac{100-D_2}{100}\right) = 8360$
$88 \times (100 - D_2) = 8360$
$D_2 = 100 - 95$
$D_2 = 5\%$

S9. Ans.(a)
Sol. Mark price of watch $= \frac{960}{80} = 1200$
C.P. of watch $= \frac{1200}{1.4}$
To gain a profit of 54% selling price $= \frac{1200}{1.4} \times 1.54 = 1320$

S10. Ans.(a)

Sol. C.P = 640

M.P = $640 \times \frac{9}{4}$ =1440 (as marked price is 125 % more than cp, means 2.25 times of cp)

S.P. = M. P.$\times \frac{100-D}{100} = 1440 \times \frac{3}{4} = 1080$ Rs.

S11. Ans.(d)

Sol. Number of soldiers in the first group = 32 × 32 = 1024

Remaining soldiers = 4726 – 1024 = 3702

Now, 60 × 60 = 3600

∴ Minimum number of soldiers in excess = 3702 – 3600 = 102

S12. Ans.(c)

Sol. LCM of 10, 12 and 25 = 300

Now,

$300 = 3 \times 2 \times 2 \times 5 \times 5 = 3 \times 2^2 \times 5^2$

∴ N = 3 × 300 = 900

Now, 900 ÷25=36

S13. Ans.(c)

Sol. Here, 32-10=22

40 – 18 = 22

72 – 50 = 22

∴ Required number of pebbles = (LCM of 32, 40 and 72) – 22

= 1440 – 22 = 1418

S14. Ans.(d)

Sol. Let the CP of first, second and third houses be Rs. 100, Rs.200 and Rs. 400 respectively.

Gain = 20 + 40 – 40 = Rs.20

∴ Gain % = 20/700×100=20/7= $2\frac{6}{7}$%

S15. Ans.(a)

Sol. Let the CP of a pen = Rs.x and that of a book = Rs. y.

∴ 15y – 5x = 700

⇒ 3y – x = 140 .....(i)

And 2y+x=260

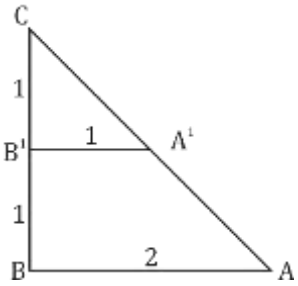
From equations (i) and (ii),

5y = 400

⇒ y = 400/5 = 80

∴ CP of a book = Rs.80

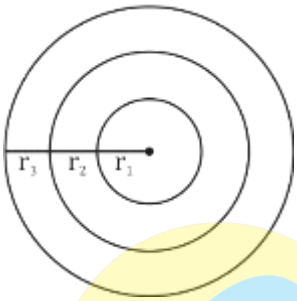
S16. Ans.(c)
Sol.



$\frac{\text{Area of } \Delta ABC}{\text{Area of } \Delta A'B'C} = \left(\frac{1}{2}\right)^2 = \frac{1}{4}$
Required Ratio = 3 : 4

S17. Ans.(d)
Sol. As the line joining the mid-points of any two sides of a triangle is parallel to the third side and is half of the third side.
∴ DE = 1/2 AB=1/2 × 10=5 cm.
EF = 1/2 BC ⇒ BC = 2EF = 2 × 3 = 6 cm.
DF = 1/2 AC ⇒ AC = 2 × DF = 2 × 4 = 8cm.

S18. Ans.(c)
Sol.



ATQ,
$\Rightarrow \frac{\pi r_1^2}{\pi r_2^2} = \frac{1}{2}$
$= \frac{r_1}{r_2} = \frac{1}{\sqrt{2}}$
$\Rightarrow \frac{\pi r_1^2}{\pi r_3} = \frac{1}{3}$
$\frac{r_1}{r_2} = \frac{1}{\sqrt{3}} \Big| \begin{matrix} r_1 & : & r_2 & : & r_3 \\ 1 & : & \sqrt{2} & : & \sqrt{3} \end{matrix}$

S19. Ans.(c)
Sol. V= πr^2 h
S = 2πrh+2πr^2
∴V(1/h+1/r) : S
⇒ πr^2h (1/h+1/r) : 2πrh+2πr^2
⇒ πr^2+ πrh : 2πrh+2πr^2
⇒ 1 : 2

S20. Ans.(b)
Sol. Let h be the height of the parallelogram. Then, clearly, h<q
So, R = P x h < p x q = S
So, R < S

S21. Ans.(d)
Sol.
Explanation:
Consider Ayisha's present age = x
Then her father's age = 6x
Given that Ayisha 's father's age will be twice the age of Shankar's age after 10 years
⇒ Shankar's age after 10 years = $\frac{1}{2}$(6x + 10) = 3x + 5
Also given that Shankar's eight birthdays was celebrated two years before =>Shankar's age after 10 years = 8 + 12 = 20
⇒ 3x + 5 = 20
⇒ x = 15/3 = 5
⇒ Ayisha 's present age = 5 years

S22. Ans.(d)
Sol. Let's take the present age of A, B and C as 4x, 7x and 9x respectively
Then
(4x – 8) + (7x – 8) + (9x – 8) = 56
⇒ 20x = 80
⇒ x = 4
Hence the present age of A, B and C are 4 × 4, 7 × 4 and 9 × 4 respectively
ie., 16, 28 and 36 respectively.

S23. Ans.(b)
Sol. ATQ
39 × 12 × 5 = 30 × 6 × x Days
Days = 13

S24. Ans.(c)
Sol. ATQ
Let price of third variety = x
126 + 135 + 2×x = 4×153
X =175.5

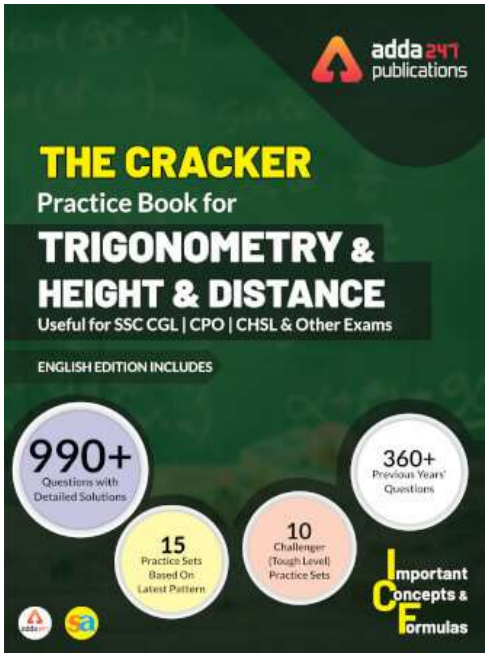
S25. Ans.(b)
Sol. Present age of Denis = 5 years
Present age of Rahul = 5 – 2 = 3
Let the present age of Ajay = x
Then (x-6)/18 = present age of Rahul = 3
⇒ x- 6 = 3×18 = 54
⇒ x = 54 + 6= 60

S26. Ans.(b)
Sol. Atq
x (12.5% + 25%) = 30
37.5% of x = 30
x = 80

S27. Ans.(c)
Sol. According to questions
A B C
25 × 12 : 40 × 9 : 50 × 5
300 : 360 : 250
30: 36 :25
C's share = $\frac{25}{(25 + 36 + 30)} \times 273000$
= 75000 Rs.

S28. Ans.(d)
Sol. Let there by 'x' chickens and 'y' pigs.
Therefore, x + y = 200 --- (1)
Each chicken has 2 legs and each pig has 4 legs
Therefore, 2x + 4y = 540 --- (2)
Solving equations (1) and (2), we get x = 130 and y = 70.
There were 130 chickens and 70 pigs in the farm.

S29. Ans.(c)
Sol. Part filled in 2 hours = 2/6 = 1/3
Remaining part = (1 - 1/3) = 2/3
(A + B)'s 7 hour's work = 2/3
(A + B)'s 1 hour's work = 2/21
C's 1 hour's work = {(A + B + C)'s 1 hour's work} – {(A + B)'s 1 hour's work} = (1/6 – 2/21) = 1/14
C alone can fill the tank in 14 hours.



S30. Ans.(d)
Sol. Let m price = 100
Discount = 10%
So SP = 90
Profit = 10%
Cp= 90 x 100/110= 900/11
Profit= SP – CP, (90 – 81.81) = 8.19
profit Rs 8.19 then m price =100
So profit of a machine is Rs. 900 then m price is 11000