

SSC CGL 2017 EXAM PAPER : Held on 10-AUG-2017 Shift-2 (Mathematics)

QID : 151 - How many numbers are there between 1 to 200 which are divisible by 3 but not by 7?

Options:

- 1) 38
- 2) 45
- 3) 57
- 4) 66

Correct Answer: 57

QID : 152- 10 women can do a piece of work in 6 days, 6 men can do same work in 5 days and 8 children can do it in 10 days. What is the ratio of the efficiency of a woman, a man and a child respectively?

Options:

- 1) 4 : 6 : 3
- 2) 4 : 5 : 3
- 3) 2 : 4 : 3
- 4) 4 : 8 : 3

Correct Answer: 4 : 8 : 3

QID : 153 - The ratio of the volume of two cylinders is 7 : 3 and the ratio of their heights is 7 : 9. If the area of the base of the second cylinder is 154cm^2 , then what will be the radius (in cm) of the first cylinder?

Options:

- 1) 6 2
- 2) 6 3
- 3) 7 2
- 4) 7 3

Correct Answer: 7 3

QID : 154 - Kanchan bought a clock with 25% discount on marked price. She sold it with 75% gain on the price she bought. What was her profit percentage on the marked price?

Options:

- 1) 31.25
- 2) 50
- 3) 56.25
- 4) 60

Correct Answer: 31.25

QID : 155 - A, B and C received an amount of Rs 8400 and distributed among themselves in the ratio of 6 : 8 : 7 respectively. If they save in the ratio of 3 : 2 : 4 respectively and B saves Rs 400, then what is the ratio of the expenditures of A, B and C respectively?

Options:

- 1) 6 : 8 : 7
- 2) 8 : 6 : 7
- 3) 9 : 14 : 10
- 4) 12 : 7 : 9

Correct Answer: 9 : 14 : 10

QID : 156 - The average age of 24 students is 12 years. It was observed that while calculating the average age, the age of a student was taken as 14 years instead of 8 years. What will be the correct average age (in years)?

Options:

- 1) 11.25
- 2) 11.5
- 3) 11.75
- 4) 12.25

Correct Answer: 11.75

QID : 157 - 70% of the cost price of a article is equal to the 40% of its selling price. What is the profit or loss percentage?

Options:

- 1) 63% loss
- 2) 70% loss
- 3) 75% profit
- 4) 80% profit

Correct Answer: 75% profit

QID : 158 - a% of b + b% of a = _____

Options:

- 1) 2a% of b
- 2) 2a% of 2b
- 3) 2a% of 2a
- 4) 2b% of 2b

Correct Answer: 2a% of b

QID : 159- If I walk at $\frac{7}{6}$ of my usual speed, then I reach my office 15 minutes early. What is the usual time taken (in minutes) by me to reach the office?

Options:

- 1) 60
- 2) 75
- 3) 90
- 4) 105

Correct Answer: 105

QID : 160 - A person lent Rs 10000 to B for 3 years and Rs 6000 to C for 4 years on simple interest at same rate of interest and received Rs 5400 in all from both of them as interest. What is the rate of interest (in %)?

Options:

- 1) 10
- 2) 12.5
- 3) 15
- 4) 20

Correct Answer: 10

QID : 161 - If $x^3 + 2x^2 - 5x + k$ is divisible by $x + 1$, then what is the value of k?

Options:

- 1) - 6
- 2) - 1
- 3) 0
- 4) 6

Correct Answer: - 6

QID : 162 - If $3x + \frac{1}{(5x)} = 7$, then what is the value of $\frac{5x}{(15x^2 + 15x + 1)}$?

Options:

- 1) $\frac{1}{5}$
- 2) $\frac{1}{10}$
- 3) $\frac{2}{5}$
- 4) 10

Correct Answer: $\frac{1}{10}$

QID : 163 - If $x + \frac{1}{(4x)} = \frac{5}{2}$, then what is the value of $\frac{(64x^6 + 1)}{8x^3}$?

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- 1) 110
- 2) 115
- 3) 125
- 4) 140

Correct Answer: 110

QID : 164 - If $x^2 + x = 19$, then what is the value of $(x + 5)^2 + [1/(x + 5)^2]$?

Options:

- 1) 77
- 2) 79
- 3) 81
- 4) 83

Correct Answer: 79

QID : 165 - In triangle ABC, AD, BE and CF are the medians intersecting at point G and area of triangle ABC is 156 cm². What is the area (in cm²) of triangle FGE?

Options:

- 1) 13
- 2) 26
- 3) 39
- 4) 52

Correct Answer: 13

QID : 166 - In triangle ABC, $\angle ABC = 15^\circ$. D is a point on BC such that AD = BD. What is the measure of $\angle ADC$ (in degrees)?

Options:

- 1) 15
- 2) 30
- 3) 45
- 4) 60

Correct Answer: 30

QID : 167 - The length of diagonal of a square is $9\sqrt{2}$ cm. The square is reshaped to form a triangle. What is the area (in cm²) of largest incircle that can be formed in that triangle?

Options:

- 1) 6
- 2) 9
- 3) 12
- 4) 15

Correct Answer: 12

QID : 168 - The length of the common chord of two intersecting circles is 12 cm. If the diameters of the circles are 15 cm and 13 cm, then what is the distance (in cm) between their centers?

Options:

- 1) $7/2$

- 2) 7
- 3) 7^2
- 4) 14

Correct Answer: 7

QID : 169 - What is the simplified value of $\sec^4 - \sec^2 - \tan^2$?

options:

- 1) cosec^2
- 2) \sec^2
- 3) \cot^2
- 4) $\sec - \tan$

Correct Answer: \sec^2

QID : 170 - What is the simplified value of $(\sin A - \operatorname{cosec} A)(\sec A - \cos A)(\tan A + \cot A)$?

Options:

- 1) 1
- 2) -1
- 3) 0
- 4) 2

Correct Answer: -1

QID : 171 - If $(1/\cos \theta) - (1/\cot \theta) = 1/P$, then what is the value of $\cos \theta$?

Options:

- 1) $(P + 1)/(P - 1)$
- 2) $(P^2 + 1)/2P$
- 3) $2(P^2 + 1)/P$
- 4) $2P/(P^2 + 1)$

Correct Answer: $2P/(P^2 + 1)$

QID : 172 -

The table given below represents the production and sales of wheat in 4 different countries A, B, C and D over a period of 4 years. At the end of year 2010 A, B, C and D had a stock of 5200, 3500, 7835 and 1956 (in '000 quintals) of wheat respectively. For any given year, the stock of wheat is calculated as:

Stock of year $(n + 1)$ = stock at end of year (n) + production in year $(n + 1)$ – sales in year $(n + 1)$

And, Surplus of year (n) = production in year (n) – sales in year (n)

नीचे दी गई तालिका में 4 वर्षों की अवधि के लिए 4 विभिन्न देशों A, B, C तथा D के उत्पादन तथा बिक्री को दर्शाया गया है। वर्ष 2010 के अंत में क्रमशः A, B, C तथा D के पास गेहूँ का 5200, 3500, 7835 तथा 1956 ('000 क्विंटल में) भण्डार है। दिए गए किसी वर्ष में गेहूँ के भण्डार की गणना करने के लिए:

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वर्ष $(n + 1)$ की बिक्री

तथा, वर्ष (n) का अधिशेष = वर्ष (n) का उत्पादन – वर्ष (n) की बिक्री

Year वर्ष	Wheat production and sales (in '000 quintals) गेहूँ का उत्पादन और बिक्री ('000 क्विंटल में)							
	Country A देश A		Country B देश B		Country C देश C		Country D देश D	
	Prod. उत्पादन	Sales बिक्री	Prod. उत्पादन	Sales बिक्री	Prod. उत्पादन	Sales बिक्री	Prod. उत्पादन	Sales बिक्री
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2014	1103	1002	1578	1239	3014	2988	4126	3563

What is the surplus (in '000 quintals) of country A of years 2013 and 2014 taken together?

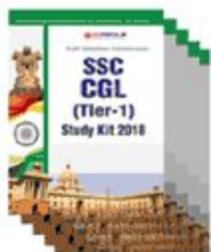
Options:

- 1) 122
- 2) 131
- 3) 143
- 4) 158

Correct Answer: 131

QID : 173 -

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What is the stock (in '000 quintals) of country C at end of the 4 year period?

Options:

- 1) 5926
- 2) 6213
- 3) 6826
- 4) 8844

Correct Answer: 6826

QID : 174 -

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What is the difference (in '000 quintals) in average production and average sales respectively of country C in the given four years?

Options:

1) – 252.25

2) – 415.50

3) 350.75

4) 275.25

Correct Answer: – 252.25

QID : 175 -

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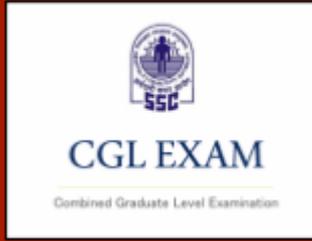
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What can be said about total surplus of country B and country D over the 4 years?

Options:

- 1) Surplus of B = Surplus of D
- 2) Surplus of D > Surplus of B
- 3) Surplus of B > Surplus of D
- 4) No relation is there

Correct Answer: Surplus of D > Surplus of B



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