RAILWAY RECRUITMENT BOARDS
रेलवे भर्ती बोर्ड

RRB Group D 2018

Level-1 Posts (Group D) · CEN 02/2018 · CBT (17 Sep - 17 Dec 2018) · Mathematics · Question Paper

English

All 12 Shifts (Sets) · Mathematics Section · Official Answer Key

About this Compilation

This booklet contains all **12 shift papers** of the **RRB Group D 2018** examination in **English** (**Mathematics** section only), with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

Source and order. Original question images of official RRB response sheets saved in our library (no retyping, no OCR). Every paper is printed in RRB's own question order (Maths Q1-25, Reasoning Q26-55, General Science Q56-80, General Awareness Q81-100), options in RRB's own order.

Shifts. This English edition holds **12 of the roughly 152 shifts** of the exam (6 in Sep, 2 in Oct, 2 in Nov, 2 in Dec): only the shifts for which a response sheet with the questions in English was saved. The other shifts were not saved by us or only in Hindi (see the Hindi book).

Answer key. Official RRB key (green tick of the response sheets); 31 questions dropped by RRB ("ignored for all candidates") are printed as asked, with RRB's note and no tick; 2 questions show no correct option on the only saved response sheet: printed without a tick, with a note.

Not readable. 7 questions of 6 shifts could not be read from any saved sheet (sheet printed short or the question printed without its images): 17 Sep 2018 9:00 AM: 1; 18 Sep 2018 9:00 AM: 1; 19 Sep 2018 12:30 PM: 1; 31 Oct 2018 12:30 PM: 1; 5 Nov 2018 4:00 PM: 2; 10 Dec 2018 9:00 AM: 1.

English not saved for 98 questions (8 shifts): the Hindi version is printed, marked HINDI.

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions appear section by section in the order of the paper, numbered 1 onward.
- Diagram and wide-table questions appear at full width at the end of their section.
- The correct answer is highlighted in green with a tick.

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Index — All Sets (click to open)

- Set 1 — 17 Sep 2018, 9:00 AM - 10:30 AM
- Set 2 — 17 Sep 2018, 4:00 PM - 5:30 PM
- Set 3 — 18 Sep 2018, 9:00 AM - 10:30 AM
- Set 4 — 19 Sep 2018, 12:30 PM - 2:00 PM
- Set 5 — 20 Sep 2018, 9:00 AM - 10:30 AM
- Set 6 — 25 Sep 2018, 12:30 PM - 2:00 PM
- Set 7 — 23 Oct 2018, 9:00 AM - 10:30 AM
- Set 8 — 31 Oct 2018, 12:30 PM - 2:00 PM
- Set 9 — 05 Nov 2018, 4:00 PM - 5:30 PM
- Set 10 — 27 Nov 2018, 9:00 AM - 10:30 AM
- Set 11 — 04 Dec 2018, 9:00 AM - 10:30 AM
- Set 12 — 10 Dec 2018, 9:00 AM - 10:30 AM

Mathematics 25 Questions • Answer Key

Q1 Mathematics

$\frac{2}{3}, \frac{8}{9}, \frac{10}{27}, \frac{32}{81}$ का म.स.प. है:

A. $\frac{160}{81}$

B. $\frac{160}{3}$

C. $\frac{2}{81}$ ✓

D. $\frac{2}{3}$

Q2 Mathematics

The HCF of two co-prime numbers is:

A. 1 ✓

B. 0

C. 2

D. the product of the co-primes

Q3 Mathematics HINDI - no English version saved

5 दोस्तों के बीच एक केक बांटा जाता है। 4 को केक का क्रमशः

$\frac{1}{8}, \frac{1}{6}, \frac{5}{12}, \frac{1}{12}$ हिस्सा मिलता है। केक का कितना हिस्सा पांचवे दोस्त को मिलेगा?

A. $\frac{5}{24}$ ✓

B. $\frac{1}{4}$

C. $\frac{1}{6}$

D. $\frac{3}{8}$

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Q4 Mathematics

Which of the following is true?

A. $\frac{9}{16} = \frac{13}{24}$

B. $\frac{9}{16} < \frac{13}{24}$

C. $\frac{9}{16} > \frac{13}{24}$ ✓

D. $\frac{9}{16} \leq \frac{13}{24}$

Q5 Mathematics

$56 \div \frac{1}{3}\{15 + 12 - (9 + 6 - \overline{5+7})\} = ?$

A. 12

B. 9

C. 8

D. 7 ✓

Q6 Mathematics

What is the value of the expression?

$$\frac{(a-b)^3+(b-c)^3+(c-a)^3}{3(a-b)(b-c)(c-a)} = ?$$

A. 1 ✓

B. 4

C. 0

D. 2

Q7 Mathematics

If the number $x4461$ is divisible by 11, what is the face value of x?

A. 5 ✓

B. 4

C. 3

D. 2

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Q8 Mathematics

Which of the following is a perfect cube?

A. 8000

B. 9261

C. 9999

D. 9000

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

Q9 Mathematics

₹ 720 was divided among A, B, C, D, E. The sum received by them was in ascending order and in Arithmetic Progression. E received ₹ 40 more than A. How much did B receive?

A. ₹ 124

B. ₹ 134 ✓

C. ₹ 144

D. ₹ 154

Q10 Mathematics

Anurag loses one-seventh of the cost by selling a pen for ₹ 144. If the pen is sold for ₹ 189, what is the gain percent?

A. 14%

B. 12.5% ✓

C. 11%

D. 11.5%

Q11 Mathematics

A TV set is being sold for ₹ X in Delhi. A dealer went to Chandigarh and bought the TV at 20% discount (from the price of Delhi). He spent ₹ 600 on transport. Thus he sold the set in Delhi for ₹ X making $\left(\frac{100}{7}\right)$% profit What is the value of X?

A. ₹ 9600

B. ₹ 8800

C. ₹ 8000 ✓

D. ₹ 7200

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Q12 Mathematics

The compound interest on ₹ 1,60,000 for 2 years at 10% per annum when compounded semi-annually is:

A. ₹ 34,481 ✓

B. ₹ 34,480

C. ₹ 34,400

D. ₹ 30,000

Q13 Mathematics

If a driver drives a car 15m/s then how much distance is covered by him in 3 hours 20 mins?

A. 150 km

B. 200 km

C. 180 km ✓

D. 165 km

Q14 Mathematics HINDI - no English version saved

विपरीत दिशाओं से आ रही 152.5 m और 157.5 m लंबी दो गाड़ियाँ 9.3 सेकंड में एक-दूसरे को पार कर जाती हैं। तो दोनों गाड़ियों की संयोजित गति प्रति घंटा कितनी होगी?

A. 125 km

B. 120 km ✓

C. 130 km

D. 115 km

Q15 Mathematics

Rohan and Rohit together can do a certain job in 10 days while Rohan alone can do the same job in 15 days. How many days Rohit alone will do the same job?

A. 35 days

B. 30 days ✓

C. 32 days

D. 25 days

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Q16 Mathematics

Two inlet pipes, A and B, can fill an empty cistern in 22 and 33 hours, respectively. They were opened at the same time, but pipe A had to be closed 3 hours before the cistern was full. How many hours in total did it take the two pipes to fill the cistern?

A. 14.2

B. 15 ✓

C. 16.2

D. 16

Q17 Mathematics

A clock is fixed on a horizontal table. At 3 pm its minute hand is pointing towards North. At 3.40 pm, the minute hand will point towards?

A. South-west

B. South-east

C. 60° west of south ✓

D. 60° south of west

Q18 Mathematics HINDI - no English version saved

A, B और C एक टैंक से जुड़े तीन वाल्व हैं। A और B मिलकर टैंक को 6 घंटे में भर सकते हैं। B और C मिलकर टैंक को 10 घंटे में भर सकते हैं। A और C मिलकर टैंक को $7\frac{1}{2}$ घंटे में भर सकते हैं। A अकेला टैंक को भरने में कुल कितना समय लेगा?

A. 10 घंटे ✓

B. 11 घंटे

C. 12 घंटे

D. 13 घंटे

Q19 Mathematics

On what dates of March 2005 did Friday fall?

A. 4, 11, 18 and 25 ✓

B. 5, 12, 19, and 26

C. 6, 13 20 and 27

D. 3, 10, 17 and 24

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Q20 Mathematics

It was Monday on 1st January 2018. What was the day of the week on 1st January 2010?

A. Friday ✓

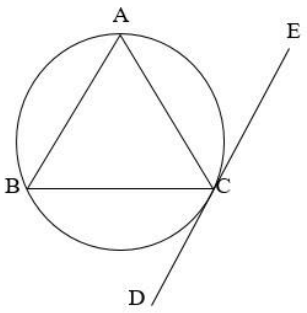
B. Monday

C. Tuesday

D. Thursday

Q21 Mathematics

Refer to the given figure and answer the question that follows.



If AB is parallel to EC and ∠BCD = 72°, then what is the value of ∠BAC?

A. 67°

B. 75°

C. 72° ✓

D. 73°

Q22 Mathematics

$$\frac{\sin A + \sin B}{\cos A - \cos B} + \frac{\cos A + \cos B}{\sin A - \sin B} = ?$$

A. 0 ✓

B. sin A cos B

C. cos A cos B

D. tan A tan B

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Q23 Mathematics

If $sec^4\theta - sec^2\theta = 3$ then the value of $tan^4\theta + tan^2\theta$ is:

A. 3 ✓

B. 4

C. 6

D. 8

Q24 Mathematics

The area of the triangle whose vertices are given by (1, 2), (– 4, – 3) and (4, 1) is:

A. 20 sq. units

B. 10 sq. units ✓

C. 14 sq. units

D. 7 sq. units

Q25 Mathematics

यदि $(Cos^2\emptyset + \frac{1}{cosec^2\emptyset}) + 17 = x$ है, तो x^2 का मान क्या होगा?

A. 16

B. 18

C. 324 ✓

D. 256

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

$\frac{2^8-1}{(\sqrt{2})^{12}}=?$

A. $\frac{223}{64}$

B. $\frac{127}{32}$

C. $\frac{255}{64}$ ✓

D. $\frac{196}{65}$

Q2 Mathematics

$[\{(161+(19-2)+1)\}-3]$ = ____

A. 174

B. 176 ✓

C. 172

D. 171

Q3 Mathematics

Find the difference between 0.02 and 0.002.

A. 1.8

B. 0.0018

C. 0.18

D. 0.018 ✓

Q4 Mathematics

The value of half of the HCF of 36 and 144 is:

A. 36

B. 144

C. 18 ✓

D. 72

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Q5 Mathematics

What is the fraction which, when taken away from $\frac{1}{2}$, gives $\frac{3}{4}$?

A. $-\frac{1}{3}$

B. $-\frac{1}{4}$ ✓

C. $\frac{1}{4}$

D. $\frac{1}{3}$

Q6 Mathematics

A, B, C have 152, 171 and 266 marbles, respectively. They decide to divide these marbles in parts such that all parts have the same number of marbles. Also, they cannot give or take the marbles. Find the minimum possible number of parts that can be made.

A. 49

B. 196

C. 23

D. 31 ✓

Q7 Mathematics

Which of the following numbers is perfectly divisible by 4?

A. 5632654

B. 7253566

C. 4187290

D. 6542176 ✓

Q8 Mathematics

Find the area of the triangle formed with the three straight lines represented by:

i) $x + y = 0$; ii) $3x = 5y$; and iii) $y = 3x - 12$

A. 15 unit

B. 20 unit

C. 16 unit

D. 12 unit ✓

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Q9 Mathematics

If p : 18 :: 5 : 3, then what is the value of p?

A. 50

B. 60

C. 25

D. 30 ✓

Q10 Mathematics

35% of a number is 91. What is the number?

A. 245

B. 252

C. 260 ✓

D. 266

Q11 Mathematics

In a shopping mall the cost of an article was increased by 10% and then it was decreased by 10%. The net increase or decrease percent is:

A. 1.5% decrease

B. 1.5% increase

C. 1% decrease ✓

D. 1% increase

Q12 Mathematics

The selling price of an item inclusive of a 12% profit was ₹616. What would the percentage loss be if the item was sold for ₹462?

A. 16 ✓

B. 14

C. 18

D. 12

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Q13 Mathematics

Ratio of days required by A and B to complete some work is 3 : 5. They require $5\frac{5}{8}$ days to complete the work. In how many days can A alone complete twice the work?

A. 18 days ✓

B. 9 days

C. 15 days

D. 30 days

Q14 Mathematics

A man travels by train and car to reach his office. If he travels by car for 10 km and the remaining by train, he reaches office in t hours. Doing exactly the opposite, he reaches office in $(t + 0.5)$ hours. If the speeds of the train and the car are 50 km/h and 40 km/h, respectively, find the distance he travels to reach his office.

A. 120 km ✓

B. 80 km

C. 100 km

D. 140 km

Q15 Mathematics

It takes 15 hours for a boat to reach its destination and return to its initial place, if the river has no flow. For the same journey it requires 16 hours if the river is flowing. The difference between speeds of boat and river is 15 km/hr. Find the speed of the flow of the river.

A. 4 km/hr

B. 10 km/hr

C. 6 km/hr

D. 5 km/hr ✓

Q16 Mathematics

Inlet Pipe A can fill a cistern in 32 hours, whereas outlet Pipe B can drain the filled cistern in 40 hours. The two pipes are opened together when the cistern is empty, but the outlet pipe is closed when the cistern is three-quarters full. How many hours will it take in all to fill the cistern?

A. 62

B. 128 ✓

C. 120

D. 80

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Q17 Mathematics

The ratio of the present ages of X and Y is 3 : 4. Five years ago, the ratio of their ages was 5 : 7. What is the present age of Y?

A. 30 years

B. 40 years ✓

C. 50 years

D. 60 years

Q18 Mathematics

Two pipes fill a tank when working individually in 5 and 8 hours, respectively while a third pipe can drain the filled tank in 3.2 hours. If all the three pipes are turned on at the same time when the tank is empty, how long will it take to fill the tank completely?

A. 3 days 8 hours ✓

B. 9 hours 48 mins

C. 6 hours 12 mins

D. 3 days 3 hours 36 mins

Q19 Mathematics

Two valves X and Y can separately fill a tank in 20 hours and 30 hours, respectively. Both the valves are opened to fill the tank, but when the tank is one-third full the valve is closed. A leak develops in the tank through which one-third of the water supplied by both the valves leaks out. The leak is immediately closed and the two valves are again opened. What is the total time taken to fill the tank?

A. 16 hours

B. 14 hours

C. 12 hours

D. 10 hours

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

Q20 Mathematics

What is the measure of the smaller of the two angles formed between the hour hand and the minute hand of a clock when it is 6:51 p.m.?

A. 101°

B. 100°

C. 100.5° ✓

D. 101.5°

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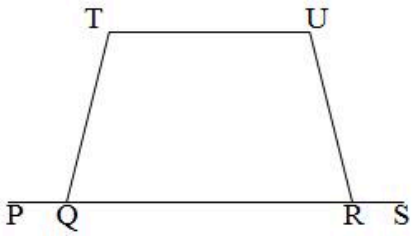
Q21 Mathematics



दिए गए आरेख में, TU||PS है और बिंदु Q और R, PS पर स्थित हैं। साथ ही, ∠PQT = x°, ∠RQT = (x − 50)° तथा ∠TUR = (x + 25)° हैं। ∠URS की माप क्या है?

A. 115°

B. 140° ✓

C. 135°

D. 130°

Q22 Mathematics

The sum of two numbers is 9. The sum of their reciprocals is $\frac{1}{2}$ One of the numbers is:

A. 6 ✓

B. 4

C. 5

D. 2

Q23 Mathematics

If $sin\emptyset - cos\emptyset = 0$, then the value of $sin^4\emptyset + cos^4\emptyset + tan^2\emptyset$ is:

A. 2

B. $\frac{7}{4}$

C. $\frac{3}{2}$ ✓

D. $\frac{5}{4}$

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Q24 Mathematics

If $\cot^4\theta + \cot^2\theta = 3.6$, then $\operatorname{cosec}^4\theta - \operatorname{cosec}^2\theta = ?$

A. 0.6

B. 1.8

C. 2.4

D. 3.6 ✓

Q25 Mathematics

Find the ratio in which line $3x + 2y = 17$ divides the line segment joined by points (2, 5) and (5, 2).

A. 1 : 2 ✓

B. 2 : 5

C. 3 : 4

D. 1 : 3

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

$4 + 4.44 + 44.4 + 4.04 + 444 - 20 = ?$

A. 472.88

B. 495.22

C. 480.88 ✓

D. 577.2

Q2 Mathematics

A car covers a distance of 44 km using $2\frac{3}{4}$ litres of petrol. What distance can the car cover using 1 litre of petrol?

A. 16 km ✓

B. 14 km

C. 15 km

D. 13 km

Q3 Mathematics

$(136 \div 17) + (17 \times 13) - (103 - 85) \times (62 + 145) \div 23 = ?$

A. 76

B. 75

C. 67 ✓

D. 59

Q4 Mathematics

When the following decimals are arranged in ascending order then what decimal number should be in the middle?

5.74, 6.03, 0.8, 0.658 and 7.2

A. 5.74 ✓

B. 0.8

C. 6.03

D. 7.2

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Q5 Mathematics

Which of the following numbers will have an irrational square root?

A. 3025

B. 6025 ✓

C. 9025

D. 11025

Q6 Mathematics

The value of $\{(.98)^3 + (0.02)^3 + 3 \times 0.98 \times 0.02 - 1\}$

A. 0 ✓

B. 1.562

C. 1.09

D. 1.98

Q7 Mathematics

$22 - [23 - \{24 - (27 - \overline{25 - 30})\}] = ?$

A. -9 ✓

B. -7

C. -8

D. 7

Q8 Mathematics

The digit in the units place of the number represented by $(7^{95} - 3^{58})$ is:

A. 0

B. 4 ✓

C. 6

D. 7

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Q9 Mathematics

If ₹ 686 is divided, into four parts, in proportions $\frac{1}{2}:\frac{2}{3}:3:4$, then the first part is?

A. ₹ 42 ✓

B. ₹ 48

C. ₹ 52

D. ₹ 56

Q10 Mathematics

The ratio 75 : 125 in its simplest form is written as:

A. 3 : 5 ✓

B. 3 : 2

C. 5 : 3

D. 2 : 3

Q11 Mathematics

Find compound interest on ₹ 50000 at 12% per annum for 6 months, compounded quarterly.

A. ₹ 2875

B. ₹ 2965

C. ₹ 3045 ✓

D. ₹ 3125

Q12 Mathematics

A merchant incurred a loss of 5% by selling a book for ₹ 25.65. If he sells it for ₹ 31.05, find his gain percent or loss percent.

A. Gain 10%

B. Gain 15% ✓

C. Loss 15%

D. Loss 10%

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Q13 Mathematics

In what time can Saloni cover a distance of 450 m, if she runs at a speed of 20Km/hr. ?

A. 81 sec ✓

B. 320 sec

C. 102 sec

D. 3 minutes

Q14 Mathematics

A train crossed a 110 m long platform in 13.5 seconds and a 205 m long platform in 18.25 seconds. What was the speed of the train?

A. 66 km/h

B. 69 km/h

C. 72 km/h ✓

D. 75 km/h

Q15 Mathematics

If 15 boys earn ₹ 750 in 5 days, then how much money 25 boys will earn in 6 days?

A. 1200

B. 1500 ✓

C. 900

D. 960

Q16 Mathematics

The lengths of one side of a rhombus and one of the two diagonals are 6 cm each. The area of the rhombus (in cm^2) is:

A. 18

B. $18\sqrt{3}$ ✓

C. $9\sqrt{3}$

D. $27\sqrt{3}$

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Q17 Mathematics

A cistern can be filled by two pipes A and B in 4 hours and 6 hours respectively. When full, the tank can emptied by a third pipe C in 8 hours. If all taps are turned on at the same time, the cistern will be full in?

A. $\frac{16}{7}$ hours

B. $\frac{24}{7}$ hours ✓

C. $\frac{31}{7}$ hours

D. $\frac{40}{7}$ hours

Q18 Mathematics

If P is 15 years now and Q will be 26 years old after 6 years, what is the ratio of their present ages?

A. 2 : 1

B. 3 : 4 ✓

C. 4 : 1

D. 2 : 3

Q19 Mathematics

Find the day name of 24 March 2006?

A. Monday

B. Friday ✓

C. Sunday

D. Wednesday

Q20 Mathematics

If the length and breadth of a rectangle are increased by 8% and 12% respectively, then by what percent does the area of that rectangle increase?

A. 20%

B. 20.96% ✓

C. 22%

D. 24%

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Q21 Mathematics

There are four numbers in a set. The mean of the three smallest numbers is 9, whereas the mean of the three largest ones is 11. What is the range of the data set?

A. 9

B. 6 ✓

C. 5

D. 3

Q22 Mathematics

If a+b+c=2s, then $[(s-a)^2+(s-b)^2+(s-c)^2+s^2]=?$

A. $(s^2-a^2-b^2-c^2)$

B. $(a^2+b^2+c^2)$ ✓

C. $(s^2+a^2+b^2+c^2)$

D. $(4s^2-a^2-b^2-c^2)$

Q23 Mathematics

If α and β are roots of the equation $x^2-x-1=0$, then the equation where roots are $\frac{\alpha}{\beta}$ and $\frac{\beta}{\alpha}$ is:

A. $x^2+3x-1=0$ ✓

B. $x^2+3x+1=0$

C. $x^2+x-1=0$

D. $x^2-x+1=0$

Q24 Mathematics

In a class there were 9 boys and some girls. In a test, the mean score obtained by the boys was 13 while that obtained by the girls was 15. If the overall average was 14.28, what was the total number of students in the class?

A. 24

B. 25 ✓

C. 26

D. 27

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Q25 Mathematics

$\sin^2 60^0 + \cos^2 30^0 + \cot^2 45^0 + \sec^2 60^0 = ?$

A. $\frac{5}{2}$

B. $\frac{7}{2}$

C. $\frac{13}{2}$ ✓

D. $\frac{15}{2}$

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

The product of two numbers is 0.646 and one of the numbers is 1.7. What is the other number?

A. 3.8

B. 0.38 ✓

C. 38

D. 0.038

Q2 Mathematics

Which of the fractions given below, when added to $\frac{13}{5}$, gives 1?

A. $-\frac{7}{5}$

B. $-\frac{8}{15}$

C. $-\frac{48}{30}$ ✓

D. $-\frac{26}{10}$

Q3 Mathematics

The LCM of 112, 72 and 90 is?

A. 2520

B. 5040 ✓

C. 7560

D. 3780

Q4 Mathematics

What is the square root of 11881?

A. 109 ✓

B. 101

C. 111

D. 119

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Q5 Mathematics

If the number $x3208$ is divisible by 3, what can be the face value of x?

A. 6

B. 5 ✓

C. 4

D. 3

Q6 Mathematics

$77 \div [46 - \{66 - (52 - 63 \div 9 \times 3)\}] = ?$

A. 11

B. 5

C. 6

D. 7 ✓

Q7 Mathematics

$140 \div [61 - \{36 - (40 - 60 \div 12 \times 6)\}] = ?$

A. 2

B. 4 ✓

C. 5

D. 10

Q8 Mathematics

$0.\overline{047619}$, when written as a vulgar fraction, is equal to

A. $\frac{1}{17}$

B. $\frac{1}{19}$

C. $\frac{1}{21}$ ✓

D. $\frac{1}{23}$

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Q9 Mathematics

In a test Chitra secured 58.5 marks that was also equivalent to obtaining 78% marks. How many marks was the test out of?

A. 80

B. 65

C. 75 ✓

D. 85

Q10 Mathematics

Pratyay bought a set of cups for ₹ 195, but then had to sell it later to clear old stocks for ₹ 171.6. What is the percentage of loss that he had to bear?

A. 12 ✓

B. 13

C. 14

D. 15

Q11 Mathematics

Pavan sold an item at a loss of 12.5%. If he could have sold it for ₹ 56 more, he would have made a profit of 22.5%. What should be the selling price of the item to make a profit of 25%?

A. ₹ 190

B. ₹ 185

C. ₹ 200 ✓

D. ₹ 182

Q12 Mathematics

The initial ratio of sugar and flour in recipe was 17: 28. With 27 kg of the recipe, Sunita added more flour to make the sugar to flour ratio 2: 5. How much flour did Sunita later add?

A. 8.1 kg

B. 8.3 kg

C. 8.5 kg

D. 8.7 kg ✓

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Q13 Mathematics

17 trainees can do as much work as 4 experts can do in a day. It takes 12 experts and 9 trainees 5 days to dig a pond. How many trainees will one need alongside 4 experts to dig a similar pool in 15 days?

A. 3 ✓

B. 4

C. 5

D. 6

Q14 Mathematics

Mahima started a journey 12 minutes late and as a result had to drive @54 km/hr instead of @ 45 km/hr to reach on time. Find the distance covered during the course of the journey.

A. 54 km ✓

B. 67.5 km

C. 75 km

D. 90 km

Q15 Mathematics

A and B can complete a task together in 15 days, while A alone can complete it in 18.75 days. They start working together but A leaves 12.5 days before the completion of the work. For how many days did A and B work together?

A. 13.75

B. 10

C. 12.5 ✓

D. 11.25

Q16 Mathematics

The time duration that would elapse between 12:46 p.m of 15th July 2019 and 12:38 p.m. of 16th July 2020 is

A. 366 days 8 mins

B. 366 days 23 hours 52 mins ✓

C. 365 days 23 hours 52 mins

D. 367 days 8 mins

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Q17 Mathematics

Shiva switched on a bulb at 1:37:39 hours and switched it off on the same day at 11:28:32 hours. For how long was the bulb in switched-on mode?

A. 12 hours 40 mins 07 secs

B. 10 hours 09 mins 54 secs

C. 9 hours 50 mins 53 secs ✓

D. 9 hours 09 mins 06 secs

Q18 Mathematics

One pipe can fill an empty cistern in 7.8 hours while another can drain the cistern when full in 19.5 hours. Both the pipes were turned on when the cistern was half-empty. How long will it take for the cistern to be full?

A. 3.9 hours

B. 5.2 hours

C. 6.5 hours ✓

D. 7.8 hours

Q19 Mathematics

Three-sevenths of my current age is the same as four-fifths of that of one of my cousin's. My age three years ago will be his age ten years hence. My current age is ____ years.

A. 21

B. 28 ✓

C. 35

D. 42

Q20 Mathematics

The sum of the lengths of the edges of a cube is equal to three-fifths of the perimeter of a square. If the numerical value of the volume of the cube is equal to the numerical value of the area of the square, then the perimeter of the square is:

A. 480 units

B. 360 units

C. 300 units

D. 500 units ✓

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Q21 Mathematics

The mean score of three students in a test out of 45 is 38. Two new students take the test. What is the lowest mark that can be obtained by the newcomer who scores less than the other new student for the overall average of the five students to rise to 40?

A. 40

B. 41 ✓

C. 42

D. 43

Q22 Mathematics

The mean of three numbers is 21. The range of this data set is 19 while the difference between the two smallest numbers is 5. The greatest of the three numbers is

A. 29

B. 28

C. 27

D. 26

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

Q23 Mathematics

The number of diagonals in a 27-sided polygon is

A. 322

B. 320

C. 324 ✓

D. 325

Q24 Mathematics

If $\sec\theta + \tan\theta = 12.5$, then $\sec\theta - \tan\theta =$?

A. 1

B. 0.8

C. 0.08 ✓

D. 0.4

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Q25 Mathematics

If $2x^2 + ax + b$, when divided by $x - 3$, leaves a remainder of 31 and $x^2 + bx + a$, when divided by $x - 3$, leaves a remainder of 24, then $a + b$ equals

A. -7

B. 7 ✓

C. 23

D. -23

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

$30 \div (20 - 15 \div 3 \times 8) = ?$

A. 2

B. - 3

C. - 1.5 ✓

D. 3

Q2 Mathematics

The fraction from the ones listed below that will not lead to a recurring decimal is:

A. $\frac{10}{56}$

B. $\frac{15}{56}$

C. $\frac{21}{56}$ ✓

D. $\frac{20}{56}$

Q3 Mathematics

How much does one need to add to $\frac{10}{11}$ to obtain $\frac{11}{10}$?

A. $\frac{1}{-1}$

B. $\frac{21}{110}$ ✓

C. $\frac{1}{55}$

D. $\frac{2}{11}$

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Q4 Mathematics

What is the HCF of 306, 204 and 136?

A. 17

B. 34 ✓

C. 68

D. 51

Q5 Mathematics

Which of the following numbers is composite?

A. 709

B. 719

C. 729 ✓

D. 739

Q6 Mathematics

$\{143-(9-2)\}\div[2+\{3\times(-5)\times(-1)\}]=\ ?$

A. 17

B. -8

C. -5

D. 8 ✓

Q7 Mathematics

$275\div[-1+(-6)of\{63\div(-35\div-5)\}]=$

A. 8

B. –4

C. –5 ✓

D. 10

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Q8 Mathematics

यदि $\frac{0.7}{1-6c}$ = - 0.2 है, तो c = ?

A. 0.75 ✓

B. 0.075

C. 0.5

D. 0.8

Q9 Mathematics

A sum of ₹ 1600, invested at 7.25% simple interest per annum for 10 years will yield an interest of

A. ₹ 1180

B. ₹ 1220

C. ₹ 1160 ✓

D. ₹ 1240

Q10 Mathematics

The interest earned on ₹ 3680 at 4% simple interest per annum for 2.5 years will be

A. ₹ 184

B. ₹ 368 ✓

C. ₹ 92

D. ₹ 276

Q11 Mathematics

A sum of money invested for 3 years and 3 months @ 8% simple interest per annum became ₹ 819 at the end of the period. What was the sum that was initially invested?

A. ₹ 700

B. ₹ 675

C. ₹ 650 ✓

D. ₹ 600

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Q12 Mathematics

The ratio of the number of marbles that Tulip and Devansh had was 7 : 9 while the ratio of the number of marbles that Sheetal and Devansh had was 7 : 15. Find the ratio of the number of marbles that Tulip and Sheetal had.

A. 5 : 7

B. 5 : 3 ✓

C. 7 : 5

D. 2 : 3

Q13 Mathematics

Sai can do a piece of work in 17 days while Bindu can do it in 51 days. Sai works on Day 1, Bindu works on Day 2, and the system continues till work gets over. How many days does it take in all to complete the work?

A. 25 ✓

B. 24.5

C. 25.5

D. 26

Q14 Mathematics

A girl needs to travel 400 km in 5 hours. She travels for some time @ 85 km/hr and the rest of the time @ 55 km/hr. how long did she travel at the higher speed?

A. 4 hours 25 mins

B. 4 hours 15 mins

C. 4 hours 35 mins

D. 4 hours 10 mins ✓

Q15 Mathematics

A and B can do a piece of work together in 35 days. If A works alone and completes $\frac{4}{7}$ of the work and then leaves the rest for B to do by herself, it takes a total of 114 days to complete the work. How many days would it take A, the more efficient among the duo, to complete the entire work by oneself?

A. 40

B. 42 ✓

C. 45

D. 48

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Q16 Mathematics

The time duration that would elapse between 5:58 p.m. of 11th September 2023 and 5:49 p.m. of 13th September 2024 is

A. 367 days 9 mins

B. 367 days 23 hours 51 mins ✓

C. 366 days 23 hours 51 mins

D. 368 days 9 mins

Q17 Mathematics

19th of February 2018 is a Monday. 19th of April 2019 will be a

A. Wednesday

B. Thursday

C. Friday ✓

D. Saturday

Q18 Mathematics

Nilanjan is 11 years younger than Bharati. 15 years hence Bharati will be 1.2 times as old as Nilanjan. What is Nilanjan's present age?

A. 38 years

B. 40 years ✓

C. 42 years

D. 43 years

Q19 Mathematics

The difference between Waqar's and Naseema's ages is 8 years. When they married each other 30 years ago, 4 times Waqar's age was the same as 5 times the age of Naseema. What is their current sum of ages?

A. 135 years

B. 134 years

C. 132 years ✓

D. 130 years

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Q20 Mathematics HINDI - no English version saved

4.5 cm की भुजा वाले एक वर्ग के प्रत्येक कोने से 1 cm की भुजा वाले शीर्ष काटे जाते हैं। इस प्रकार बने अष्टभुज की परिधि और क्षेत्रफल ज्ञात करें।

A. 16 cm, 16 cm^2

B. $5\sqrt{2}$ cm; 18.25 cm^2

C. $(5+4\sqrt{2})$ cm; 18.25 cm^2

D. $(10+4\sqrt{2})$ cm; 18.25 cm^2 ✓

Q21 Mathematics

Seven children, each with the same birthday, were born in seven consecutive years. The sum of the ages of the oldest three children is 78 years. What is the sum of the ages, in years, of the youngest three?

A. 63

B. 72

C. 69

D. 66 ✓

Q22 Mathematics

Four numbers, when arranged in ascending order, are w, x, y and z. The average of the smallest three numbers is 25.5 while the average of the largest three was 29.5. What is the range of the data?

A. 10

B. 11

C. 12 ✓

D. 13

Q23 Mathematics

The ratio of the measures of the interior angles of a regular heptagon and a regular dodecagon is:

A. 4 : 5

B. 2 : 3

C. 6 : 7 ✓

D. 7 : 12

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Q24 Mathematics

One of the roots of the equation $x^2 - 24x + k = 0$ is $x = 2$

The other root is:

A. $x = -12$

B. $x = -22$

C. $x = 12$

D. $x = 22$ ✓

Q25 Mathematics

The angle of elevation of the top of a 43.5 metre tall tower from the initial position of a person on the ground was 60^0. She walked away in a manner that the foot of the tower, her initial position and the final position were all in the same straight line. The angle of elevation of the top of the tower from her final position was 30^0. How much did she walk from her initial position?

A. 29 metre

B. $29\sqrt{3}$ metre ✓

C. $\frac{29}{2}\sqrt{3}$ metre

D. $\frac{29}{3}\sqrt{3}$ metre

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Mathematics 25 Questions • Answer Key

Q1 Mathematics HINDI - no English version saved

यदि द्विघातीय समीकरण $6x^2-5x+1=0$ के दो मूल α और β हैं, तो इनके वर्गमूलों का योग होगा:

A. $\frac{13}{26}$

B. $\frac{13}{36}$ ✓

C. $\frac{11}{23}$

D. $\frac{13}{23}$

Q2 Mathematics

$(77+14)-\frac{42}{7}\times 3+(12-9)=?$

A. 24

B. 90

C. 76 ✓

D. 92

Q3 Mathematics HINDI - no English version saved

$\frac{7}{11}$ को दशमलव रूप में व्यक्त करें।

A. $0.\overline{63}$ ✓

B. $0.\overline{633}$

C. $0.\overline{62}$

D. $0.\overline{623}$

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Q4 Mathematics HINDI - no English version saved

निम्नलिखित में से कौनसी संख्या 9 से विभाज्य है?

A. 12381

B. 12348 ✓

C. 45696

D. 45699

Q5 Mathematics

$\frac{273}{195}$, when written in the simplest form, is:

A. $\frac{14}{10}$

B. $\frac{7}{5}$ ✓

C. $\frac{91}{65}$

D. $\frac{28}{20}$

Q6 Mathematics

A natural number when divided by 5, 6, 7 or 8 leaves a remainder of 4 in each case. The second such number, when arranged in ascending order is:

5

A. 1684 ✓

B. 844

C. 1688

D. 1264

Q7 Mathematics

$108 \div 18 \times (55 - 35 \div 5) \div 3 = ?$

A. 18

B. 96 ✓

C. 144

D. 120

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Q8 Mathematics

$84 \div [-5 + (-4) \text{ of } \{32 \div (-16 \div -2)\}] = \ ?$

A. -2

B. 1

C. 2

D. -4 ✓

Q9 Mathematics

In a group there are 10 boys and 10 girls. After adding some boys to this group, the percentage change in girls is 10%. How many boys were added?

A. 4

B. 10

C. 5

D. 6

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

Q10 Mathematics HINDI - no English version saved

किसी संख्या का 76%, 95 है। वह संख्या है:

A. 130

B. 124

C. 125 ✓

D. 120

Q11 Mathematics

Akshay borrows ₹ 3000 at simple interest of 6% per annum for 2 years and lends the same amount to his friend at simple interest of 9% per annum for 2 years. How much will Akshay earn in a year?

A. ₹ 180

B. ₹ 90 ✓

C. ₹ 120

D. ₹ 150

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Q12 Mathematics HINDI - no English version saved

एक संख्या 9:5 के अनुपात में विभाजित है। जब प्रत्येक संख्या में 8 जोड़ दिया जाता है तो अनुपात 5:3 हो जाता है। दोनों में से बड़ी संख्या कौन सी होगी?

A. 81

B. 72 ✓

C. 80

D. 69

Q13 Mathematics HINDI - no English version saved

162m लंबी रेलगाड़ी 54 km/hr की गति से एक प्लेटफ़ॉर्म को 44 sec. में पार करती है। प्लेटफ़ॉर्म की लंबाई क्या होगी?

A. 660 m

B. 498 m ✓

C. 822 m

D. 540 m

Q14 Mathematics

Indra and Chandra can complete a task individually in 20 and 80 days, respectively. Indra starts the work, works for 3 days and takes a break for 5 days during which Chandra works. The pattern is continued till the task is completed. How many days did it take in all to do so?

A. 35 ✓

B. $37\frac{11}{17}$

C. 16

D. $57\frac{1}{2}$

Q15 Mathematics HINDI - no English version saved

A, B एवं C एक साथ मिलकर 2 दिनों में एक कार्य को पूरा कर सकते हैं। यदि A एवं B द्वारा एकसाथ काम को करने के लिए उन्हें 2.4 दिनों की आवश्यकता पड़ती है। तथा B एवं C के एकसाथ काम करने पर उन्हें 4 दिनों का समय लगता है। B अकेले उस कार्य को कितने दिनों में पूरा करेगा?

A. 4.4

B. 5

C. 6 ✓

D. 9

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Q16 Mathematics HINDI - no English version saved

X और Y की वर्तमान आयु का अनुपात 5:4 है। अब से तीन वर्ष बाद, इनकी आयु का अनुपात 11:9 हो जाएगा। Y की वर्तमान आयु कितनी है?

A. 24 वर्ष ✓

B. 22 वर्ष

C. 26 वर्ष

D. 27 वर्ष

Q17 Mathematics HINDI - no English version saved

2:12 p.m. पर घंटे की सुई और मिनट की सुई के बीच का कोण कितना होता है?

A. $0°$

B. $12°$

C. $6°$ ✓

D. $10°$

Q18 Mathematics HINDI - no English version saved

तीन पाइपों में से पहले दो क्रमशः 10.8 घंटे और 21.6 घंटे में एक खाली टंकी को भर सकते हैं। जबकि तीसरा पाइप भरी हुई टंकी को 18 घंटे में खाली कर सकता है। यदि टंकी खाली है और तीनों पाइप एकसाथ खोले जाते हैं, तो टंकी कितने घंटे में भर जाएगी?

A. 12 ✓

B. 13.2

C. 14.4

D. 15.6

Q19 Mathematics

Inlet P can fill a tank in 7 hours and outlet Q can empty a completely filled tank in 6 hours. If only P is opened for 3 hours and after that Q is also opened, how many hours will be required to empty the tank?

A. 24

B. 28

C. 21

D. 18 ✓

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Q20 Mathematics

A sphere is split in the ratio 2 : 3. The larger part is molded into a cone having a height equal to the radius of its base, while the smaller part is molded into a cylinder having a height equal to the radius of its base. What would be the ratio of the radius of the cone and the height of the cylinder?

A. $\sqrt[3]{9} : 1$

B. $3 : 1$

C. $\sqrt[3]{9} : \sqrt[3]{2}$ ✓

D. $1 : \sqrt[3]{3}$

Q21 Mathematics

The least value of x that makes $\frac{55}{x-19}$ an integer is:

A. -14

B. 74

C. 30

D. -36 ✓

Q22 Mathematics HINDI - no English version saved

25 वस्तुओं का औसत भार 50 kg है। यदि इसमें किसी अन्य वस्तु X का भार शामिल किया जाए, तो औसत भार 500 g तक बढ़ जाता है। वस्तु X का भार कितना है?

A. 36 kg

B. 63 kg ✓

C. 28 kg

D. 82 kg

Q23 Mathematics HINDI - no English version saved

$\cos^2 5^\circ + \cos^2 10^\circ + ____ + \cos^2 90^\circ$ का मान क्या है?

A. 4

B. $8\frac{1}{2}$ ✓

C. $9\frac{1}{2}$

D. 8

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Q24 Mathematics HINDI - no English version saved

किसी कक्षा में 18 लड़कों के एक टेस्ट में प्राप्त अंकों का औसत 16 है, जबकि कक्षा के कुल 30 विद्यार्थियों का औसत 18.1 है। लड़कियों के प्राप्ताकों का औसत कितना है?

A. 20.75

B. 21.25 ✓

C. 21

D. 20.5

Q25 Mathematics HINDI - no English version saved

एक आयत जिसकी भुजाएं 12cm एवं 4cm हैं, के द्वारा एक ऐसे समचतुर्भुज की पुनर्रचना की जाती है जिसके विकर्ण समान हों और एक कोण का मान 60° हो। इस प्रकार निर्मित समचतुर्भुज का क्षेत्रफल cm^2 में कितना होगा?

A. $32\sqrt{3}$ ✓

B. $16\sqrt{3}$

C. $8\sqrt{3}$

D. $24\sqrt{3}$

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

Evaluate the following expression:

$28 - 2(20+12\div4\times3 - 2\times2) + 22 = ?$

A. 2

B. -2

C. 0 ✓

D. 4

Q2 Mathematics

Evaluate: $35 - 42 \div 6 + 13 \times 2 = ?$

A. 33

B. 54 ✓

C. 1

D. -10

Q3 Mathematics

Find the number between 300 and 500 which will be exactly divisible by 6, 8, 10 and 12:

A. 340

B. 490

C. 320

D. 360 ✓

Q4 Mathematics

Simplify using BODMAS rule:

$11 - [2 \times 9 - \{12 \div (7 - 2 + 1)(13 - 11)\}] = ?$

A. -6 ✓

B. -5

C. -5.5

D. -4

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Q5 Mathematics

Solve the below equation.

$34.508 + 3.4508 + 345.08 - 32.89 = ?$

A. 320.1488

B. 355.1488

C. 450.1488

D. 350.1488 ✓

Q6 Mathematics

What is the difference between the place value of the two 3's in 935071360?

A. 29999701

B. 29999700 ✓

C. 29999600

D. 29999400

Q7 Mathematics

x and y, given correct to 2 decimal place, are given as 3.57 and 3.42 respectively. What is the upper bound of the value of $x + y$?

A. 7.000 ✓

B. 6.990

C. 6.995

D. 7.010

Q8 Mathematics

What is the greatest number smaller than 5000 which, when divided by 5, 6 and 7 respectively, leaves remainders of 4, 5 and 6?

A. 4831

B. 4830

C. 4829 ✓

D. 4845

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Q9 Mathematics

Deepa bought a set of cups for ₹ 185, but then had to sell it later for ₹ 170.2 to clear old stocks. What is the percentage of loss that she had to bear?

A. 14

B. 7

C. 16

D. 8 ✓

Q10 Mathematics

₹ 5,100 is to be divided among A and B in the ratio of 8:9. The share of B will exceed that of A by:

A. ₹ 300 ✓

B. ₹ 200

C. ₹ 250

D. ₹ 350

Q11 Mathematics

Mr. X invested ₹ 300 for three years at a simple interest rate of 11.03%. How much should Mr. Y invest to get the same return after three years, but at a compound interest rate of 10%?

A. ₹ 250

B. ₹ 300 ✓

C. ₹ 350

D. ₹ 400

Q12 Mathematics

By reducing the price of an article by 20%, the sale increase by 20%, what is the effect on the revenue earned?

A. 4% increase

B. 4% reduce ✓

C. 5% increase

D. 5% reduce

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Q13 Mathematics

A can complete a task alone in 12 days, while B takes 16 days to do it by herself. Together with C it takes them 6 days to complete the task. If C and D together can do the work in 30 days, then how many days will D need to complete the task by herself?

A. 90
B. 75
C. 84
D. 80 ✓

Q14 Mathematics

A student travels 420 km in 7 hours. He travels for some time @ 75 km/hr and the rest of the time @ 55 km/hr. How long did he travel at the higher speed?

A. 1 hour 25 mins
B. 1 hour 45 mins ✓
C. 1 hour 35 mins
D. 1 hour 15 mins

Q15 Mathematics

A contractor decides to build a house in 30 days. He employed 50 men in the beginning and 50 more after 25 days and completed the construction in stipulated time. If he had not employed the additional men, how many more days would be required to complete the work?

A. 30 days
B. 35 days
C. 40 days
D. 45 days

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

Q16 Mathematics

What is 46% of 250?

A. 92
B. 126.5
C. 115 ✓
D. 103.5

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Q17 Mathematics

A tank can be filled by tap A in 15 h and B can fill the same in 24 h. Tap C can empty the filled tank in 30 h. If all the three taps are opened simultaneously, how much time will be taken to fill the tank completely?

A. $\frac{40}{3}$ h ✓

B. $\frac{67}{7}$ h

C. $\frac{40}{7}$ h

D. 3 h

Q18 Mathematics

The length of each of the sides of a rhombus is given as 30 m and the length of one of its diagonals is 36 m. Find the area of the rhombus.

A. 840 m^2

B. 856 m^2

C. 864 m^2 ✓

D. 860 m^2

Q19 Mathematics

The middle portion of a solid object has the shape of a right circular cylinder (length = 14 cm). One end of the cylinder is a right circular cone and the other end is hemispherical. The radius of all three shapes is 3 cm. If the total length of the cylindrical object including the cone and the hemisphere is 21 cm, find out the total surface area of the solid object in cubic centimeter.

A. 115π

B. 117π ✓

C. 119π

D. 121π

Q20 Mathematics

Sohrab started his journey at 5:24:37 p.m. and reached his destination at 7:34:48 p.m. Bheema started the same journey 48 minutes 23 seconds after Sohrab and reached the same destination 40 minutes 12 seconds after him. How long did Bheema take to complete the journey?

A. 2 hours 2 minutes ✓

B. 2 hours 1 minutes 12 seconds

C. 1 hour 59 minutes

D. 2 hours 2 seconds

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Q21 Mathematics

$\frac{\cot 45^0}{1+\sin 45^0} + \frac{1+\sin 45^0}{\cot 45^0} = ?$

A. $3 - \frac{\sqrt{2}}{2}$ ✓

B. $\sqrt{2}$

C. $-\frac{\sqrt{2}}{2}$

D. $3 - 2\sqrt{2}$

Q22 Mathematics

If a polyhedron has 10 faces and 23 edges, then the number of vertices are _____.

A. 14

B. 15 ✓

C. 16

D. 11

Q23 Mathematics

The scores of Rahul Sharma in ten consecutive innings are first ten natural numbers respectively. Find the mean of the above data?

A. 5.5 ✓

B. 5

C. 6

D. 6.5

Q24 Mathematics

If a+b+c=0, find the value of $\frac{a^2+b^2+c^2}{a^2-bc}$

A. 2 ✓

B. 0

C. 4

D. 5

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Q25 Mathematics

The sum of the values of all the six trigonometric ratios when the angle $\alpha = 45^0$ is:

A. 6

B. $2 + 3\sqrt{2}$ ✓

C. $2 + 4\sqrt{2}$

D. $\frac{6+3\sqrt{2}}{2}$

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

For a number to be divisible by 8, the last digit must be =?

A. 4 ✓

B. 3

C. 1

D. 5

Q2 Mathematics

The LCM and HCF of two numbers are 68 and 5, respectively. If one number is 20, what is the other number?

A. 14

B. 15

C. 17

D. 19

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

Q3 Mathematics

The LCM of 36, 27 and 72 is:

A. 108

B. 216 ✓

C. 324

D. 432

Q4 Mathematics

Evaluate:

$36 \div \frac{1}{4}$

A. 9

B. Reciprocal of 9

C. 144 ✓

D. Reciprocal of 144

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Q5 Mathematics

If $\sqrt{1296} = (?)^2$, then the value of $(?)$ is:

A. 8

B. 6 ✓

C. 18

D. 12

Q6 Mathematics

$\sqrt{\frac{?}{3136}} = \frac{1}{2}$ Find the value of ?

A. 784 ✓

B. 56

C. 28

D. 1568

Q7 Mathematics

Shalini, Tanvir and Rashid shared a cake. Shalini had $\frac{1}{6}$ of it, Tanvir had $\frac{1}{4}$ of it and Rashid had the rest. What was Rashid's share of the cake?

A. $\frac{13}{15}$

B. $\frac{7}{12}$ ✓

C. $\frac{5}{6}$

D. $\frac{3}{5}$

Q8 Mathematics

If $\sqrt{50} + \sqrt{128} = \sqrt{N}$, what is the value of N?

A. 26

B. 182

C. 338 ✓

D. 390

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Q9 Mathematics

In a company, 12 employees can make 111 candles in the given time. How many people are to be employed to make 148 candles in the same time?

A. 12 people

B. 10 people

C. 16 people ✓

D. 18 people

Q10 Mathematics

If $5 : 9 :: x : 27$, then $x = ?$

A. 3

B. 15 ✓

C. 18

D. 6

Q11 Mathematics

A man sold two bicycles at a total profit of 20 % . If he had bought them for ₹ 3,500 each and sold the first one at a profit of 5 % , then for how much profit (%) he must make on the other one?

A. 20%

B. 25%

C. 30%

D. 35% ✓

Q12 Mathematics

The cost prices of two items are ₹ 200 and ₹ 600. A shopkeeper gets a profit of ₹ 300 by selling both. If the shopkeeper sells the first item at a 30% profit, then at what profit does he sell the second item?

A. 50%

B. 30%

C. 40% ✓

D. 20%

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Q13 Mathematics

Distribute ₹ 400 among 6 men, 12 women and 17 boys in such a way that 2 men get equal amount as 5 boys and 2 women get equal amount as 3 boys. How much money was given to one man, one woman and one boy?

A. ₹45

B. ₹40 ✓

C. ₹50

D. ₹38

Q14 Mathematics

Divide ₹ 6600 into two parts so that the simple interest on the first part for 3 years at 10% per annum is equal to the simple interest on the second part for 4 years at 9% per annum.

A. ₹ 3600, ₹ 3000 ✓

B. ₹ 4000, ₹ 2600

C. ₹ 5000, ₹ 1600

D. ₹ 6000, ₹ 600

Q15 Mathematics

A train overtakes two persons who are walking in the same direction of train movement at the rate of 2 km/h and 4 km/h and passes them completely in 9 and 10 second respectively. Find the speed and the length of the train.

A. 22 km/h, 50 m ✓

B. 32 km/h, 50 m

C. 22 km/h, 80 m

D. 32 km/h, 80 m

Q16 Mathematics

36% of 325 is:

A. 128

B. 108

C. 144

D. 117 ✓

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Q17 Mathematics

Let V be the volume of a cube. If its edge is doubled then its volume becomes:

- A. 8V ✓
- B. 4V
- C. 2V
- D. 3V

Q18 Mathematics

Find the number that is 30% more than 240.

- A. 312 ✓
- B. 320
- C. 331
- D. 340

Q19 Mathematics

A tank can be filled by two taps A and B in 8 hours and 10 hours, respectively. The full tank can be emptied by a third tap in 12 hours. If all the taps are turned on at the same time, in how much time (in approximate number of hours) will the empty tank be filled completely?

- A. 7 ✓
- B. 8
- C. 9
- D. 10

Q20 Mathematics

A father told his son, "My age at the time of your birth was equal to your present age". If the father's present age is 40 years, what was the son's age 5 years ago?

- A. 15 years ✓
- B. 13 years
- C. 23 years
- D. 17 years

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Q21 Mathematics

The area of the circumcircle of a right angle triangle whose sides are given as 8 cm, $4\sqrt{5}$ cm and 12 cm, is given by _____.

A. $9\pi\ cm^2$

B. $18\pi\ cm^2$

C. $36\pi\ cm^2$ ✓

D. $27\pi\ cm^2$

Q22 Mathematics

The frequency distribution of the diameters (D) of 100 steel balls is given in the following list.

D (mm)	43	44	45	46	47	48
Nos.	13	15	22	21	16	14

Find the median of the diameters in mm.

A. 45.4

B. 45.6

C. 45.7

D. 45.5 ✓

Q23 Mathematics

The lengths of the three sides of a triangle are given as 6 cm, 11 cm and 13 cm. The ratio of their corresponding altitudes to the opposite vertices will be

A. 143 : 78 : 66 ✓

B. 13 : 11 : 6

C. 66 : 143 : 78

D. 24 : 19 : 17

Q24 Mathematics

What is the square root of $(x^2 + 4x + 4)(x^2 + 6x + 9)$?

A. $(x+2)(x+3)$ ✓

B. $(x+2)(x+4)$

C. $(x+2)(2x+3)$

D. $(2x+3)(x+3)$

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Q25 Mathematics

In a class of 40 students, the ratio of boys to girls is 7 : 3. The average marks of boys is 65 and that of girls is 72. What is the average marks of whole class?

A. 68.4

B. 68.3

C. 67.1 ✓

D. 68.2

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

Find HCF of $\frac{7}{9}, \frac{14}{15}, \frac{7}{10}$.

A. $\frac{7}{45}$

B. $\frac{7}{90}$ ✓

C. $\frac{14}{45}$

D. $\frac{7}{675}$

Q2 Mathematics

The sum of the digits of a two digit number is 9 also nine time this numbers is twice the number obtained by reversing the order of the digits. Find the number.

A. 18 ✓

B. 19

C. 28

D. 30

Q3 Mathematics

Solve the below equation.

$10 - [5 - \{6 - (5 - 4 - 3)\}] = ?$

A. 13 ✓

B. 10

C. 8

D. 16

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Q4 Mathematics

Solve the below equation.

$\frac{(0.125+0.255)}{0.5-0.03+0.005} = ?$

A. 0.8 ✓

B. 1

C. 0.08

D. 0.2

Q5 Mathematics

Solve the below equation.

$\frac{1212}{0.5} = 6.06x\,?$

A. 0.40

B. 40

C. 400 ✓

D. 4

Q6 Mathematics

The HCF of two numbers is 110 and their product is 290400. The LCM of these two numbers is:

A. 2640 ✓

B. 1320

C. 3960

D. 1980

Q7 Mathematics

The ratio of two numbers is 7 : 11 and their HCF is 8. What is the LCM of these numbers?

A. 1540

B. 924

C. 308

D. 616 ✓

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Q8 Mathematics

If $\sqrt{75} + \sqrt{363} = \sqrt{N}$, what is the value of N?

A. 27

B. 438

C. 768 ✓

D. 729

Q9 Mathematics

48 out of 60 is ____%.

A. 80 ✓

B. 78

C. 75

D. 72

Q10 Mathematics

The ratio of the number of boys to that of the girls in a school was 4 : 5. If there were 333 students in the school, how many of them were girls?

A. 180

B. 185 ✓

C. 175

D. 190

Q11 Mathematics

The coordinates of the point that divides the line segment joining the points (– 7, 6) and (5, 0) internally in the ratio 1 : 3 are given by:

A. (3, 1)

B. (– 4, 4.5) ✓

C. (– 3, 4)

D. (1, 3)

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Q12 Mathematics

In an election, a candidate got 62% of the total votes polled and won the election by 35640 votes. The total number of votes cast, if no vote is declared invalid, is:

A. 148500 ✓

B. 93790

C. 57484

D. 356400

Q13 Mathematics

A is twice as good a workman as B. If together they finish the work in 14 days, then in how many days can it be done by B separately?

A. 40 days

B. 21 days

C. 42 days ✓

D. 35 days

Q14 Mathematics

Mahesh alone takes 18 days to complete a piece of work, while Kishore alone takes 36 days to complete the same piece of work. If they work together for 6 days, what is the percentage of total work that is left?

A. 30%

B. 40%

C. 60%

D. 50% ✓

Q15 Mathematics

A train passes by a stationary man standing on a platform in 5 seconds and passes by the platform completely in 25 seconds. If the length of the platform is 300 meters, what is the length of the train?

A. 110 m

B. 75 m ✓

C. 115 m

D. 150 m

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Q16 Mathematics

4^{th} of October 2018 is a Thursday. What day would be 2^{nd} of February 2019?

A. Thursday

B. Friday

C. Saturday ✓

D. Sunday

Q17 Mathematics

A wall 4.84 m long and 3.1 m high is to be covered with 22 cms × 10 cms tiles. Find out the total rate of tiles if each tile costs ₹ 1.50.

A. ₹ 1,025

B. ₹ 1,020

C. ₹ 1,022

D. ₹ 1,023 ✓

Q18 Mathematics

The sum of the present ages of a father and a son is 50 years. If 5 years ago, the ratio of their ages was 7 : 1 , then the son's present age is:

A. 10 years ✓

B. 15 years

C. 9 years

D. 14 years

Q19 Mathematics

The current age of Sam is $1\frac{1}{4}$ times his age when he married 8 years ago. The age of his daughter today is a ninth of what Sam's age will be 5 years hence. Sam's daughter is now _____ years old.

A. 4

B. 5

C. 6

D. 7

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

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Q20 Mathematics

The current age of Tom is $1\frac{1}{3}$ times his age when he married 10 years ago. The age of his daughter today is 1/11 of what Tom's age will be 15 years hence. Tom's daughter is now _____ years old.

A. 4

B. 5

C. 6

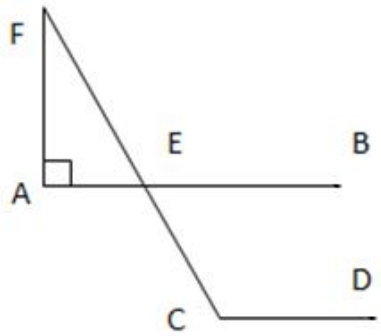
D. 7

Dropped by RRB: discrepancy found in question/answer, ignored for all candidates (no answer key).

Q21 Mathematics

In the figure, AB || CD

and $\angle AFE = 30°$ then $\angle FCD$ is:



A. 90°

B. 120° ✓

C. 60°

D. 45°

Q22 Mathematics

If 10 reduced from 5 times a number is equal to 8 added to four times the number, then what is the number?

A. 15

B. 18 ✓

C. 21

D. 22

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Q23 Mathematics

If $\text{cosec}\,(A - B) = \frac{\sec A \sec B}{\tan A - \tan B}$, then $\text{cosec}\,15^0 = ?$

A. $\sqrt{6}+\sqrt{3}$

B. $\sqrt{6}+\sqrt{2}$ ✓

C. $\sqrt{6}-\sqrt{2}$

D. $\sqrt{6}-\sqrt{3}$

Q24 Mathematics

The mean weight of six kids is 17.5 kg. If the individual weights of 5 of those kids are 14, 19, 23, 21 and 13 kg, respectively, find the weight of the sixth kid.

A. 15 kg ✓

B. 16 kg

C. 17 kg

D. 18 kg

Q25 Mathematics

If in 12 innings a batsman scores 38, 70, 48, 34, 42, 76, 55, 46, 63, 54, 80 and 44, then the mean deviation from the median is approximately:

A. 8.6

B. 9.6

C. 10.6

D. 12.17 ✓

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

The value of $\sqrt{\frac{256 \times 289}{4^3}}$ is:

- A. 34 ✓
- B. 17
- C. 4.25
- D. 8.50

Q2 Mathematics

The value of $21 + \{36 \div (5 + 4)\} + 7(-4)$ is:

- A. -3.4
- B. -21.7
- C. -3 ✓
- D. -19

Q3 Mathematics

If 2.35 kg tomatoes cost ₹ 34.55, then what is the cost of 4.15 kg of tomatoes? (rounded off to two decimal places).

- A. ₹ 141.84
- B. ₹ 61.01 ✓
- C. ₹ 19.15
- D. ₹ 43.24

Q4 Mathematics

What is the square root of 41616?

- A. 204 ✓
- B. 214
- C. 196
- D. 194

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Q5 Mathematics

The value of $7 + 3 \times \{15 \div (12 - 9) \times 5\}$ is:

A. 15

B. 10

C. 82 ✓

D. 54

Q6 Mathematics

The lengths of one of the two sides containing the right angle in a right-angled triangle and its hypotenuse are 9 cm and 41 cm respectively. What is the length of the third side?

A. $\sqrt{369}$ cm

B. 35 cm

C. 32 cm

D. 40 cm ✓

Q7 Mathematics

The value of $\sqrt{214 + \sqrt{107 + \sqrt{196}}}$ is:

A. 23

B. 15 ✓

C. 24

D. 18

Q8 Mathematics

How many factors does the number 4000 have?

A. 24 ✓

B. 25

C. 26

D. 27

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Q9 Mathematics

If 375 marbles are shared between Vihan and Rihana in the ratio 7 : 8, Rihana will get _____ marbles.

A. 225

B. 125

C. 250

D. 200 ✓

Q10 Mathematics

27% of 900 is:

A. 238

B. 275

C. 243 ✓

D. 252

Q11 Mathematics

₹ 600 was given to two persons, at 5% annual interest rate to the first person and at 10% to the second person. After one year, the sum of the interest for both was ₹ 40. Find the amount given to the first person.

A. ₹ 420

B. ₹ 400 ✓

C. ₹ 200

D. ₹ 380

Q12 Mathematics

A sum of money was divided between Ethane and Jane in the ratio 4 : 7. If Jane gave ₹ 1 to Ethane, the ratio would have changed to 7 : 12. What is the sum of money in question?

A. ₹ 190

B. ₹ 209 ✓

C. ₹ 198

D. ₹ 220

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Q13 Mathematics

Two pipes, A and B, can fill a tank in 3 and 4 hours, respectively. Another pipe, C, can empty the filled tank in 6 hours. If A and B are opened at 8 AM and run for 1.5 hours and then C is opened as well, calculate the time when the tank will be fully filled:

A. 9:20 AM

B. 8:30 AM

C. 9:18 AM

D. 9:48 AM ✓

Q14 Mathematics

If Manish alone takes 72 days to complete a piece of work, and Shivam alone takes 90 days to complete the same piece of work. If they work together for 20 days, what is the percentage of total work that is left?

A. 40 %

B. 55 %

C. 65 %

D. 50 % ✓

Q15 Mathematics

A 350-m-long train is running at a speed of 54 km/h. How long will the train take to pass a jogger jogging at a speed of 9 km/h in a direction opposite to the running train?

A. 6 seconds

B. 15.6 seconds

C. 12 seconds

D. 20 seconds ✓

Q16 Mathematics

Two inlet pipes, one 4.5 times as efficient as the other, alongside an outlet pipe that can drain afilled cistern empty in 9 hours, can fill the empty cistern in 7.5 hours when working together. How many hours will the less efficient inlet pipe alone take to fill the empty cistern?

A. 13.5

B. 18

C. 22.5 ✓

D. 27

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Q17 Mathematics

A rectangular lawn is 60 meters long and 40 meters wide. The time taken by a man to walk along its diagonal at the speed of 3km/hrs is approximately:

A. 92.5 sec

B. 84.5 sec

C. 81.5 sec

D. 86.5 sec ✓

Q18 Mathematics

Three pumps can fill a water tank separately in 15, 20, and 30 hours, respectively. The three pumps are started together at 8 a.m. when the tank is already one-fifth full. The first pump is stopped after 4 hrs. The third pump is stopped after 2 more hours. At what time will the tank be full?

A. 2:30 p.m.

B. 3:20 p.m.

C. 2:40 p.m. ✓

D. 1:20 a.m.

Q19 Mathematics

15^{th} of August 2019 will be a Thursday. In which of the years given below will 15^{th} of August also be a Thursday?

A. 2022

B. 2023

C. 2024 ✓

D. 2025

Q20 Mathematics

22^{nd} of August 2019 will be a Thursday. In which of the years given below will 22^{nd} of August also be a Thursday?

A. 2022

B. 2023

C. 2024 ✓

D. 2025

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Q21 Mathematics

If $\log\frac{a}{b}+\log\frac{b}{a}=\log(a+b)$, then which of the following will hold true?

A. $a+b=1$ ✓

B. $a-b=1$

C. $a=b$

D. $a^2-b^2=1$

Q22 Mathematics

Given that

$\tan(A+B)=\frac{\tan A+\tan B}{1-\tan A\tan B}$, what is the value of tan75°?

A. $2+\sqrt{3}$ ✓

B. $2-\sqrt{3}$

C. $2+2\sqrt{3}$

D. $2-2\sqrt{3}$

Q23 Mathematics

A road 3.5 m wide surrounds a circular park whose circumference is 176 m. Find the cost of paving the road at the rate of ₹ 60 per square metre.

A. ₹ 39,270 ✓

B. ₹ 39,250

C. ₹ 39,370

D. ₹ 39,290

Q24 Mathematics

Divide 36 into two parts, such that 5 times of the first part is more than 8 times of the second part by 24?

A. 20,16

B. 24,12 ✓

C. 22,14

D. 26,10

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Q25 Mathematics

If $4sin^2\theta - 1 = 0$ and θ is an acute angle, then the value of $cos2\theta$ is:

A. 1

B. $\frac{1}{2}$ ✓

C. $\frac{1}{4}$

D. $\frac{3}{4}$

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

$\frac{3}{4}$, when multiplied by another number, gives $\frac{5}{8}$. That number is:

A. $\frac{32}{15}$

B. $\frac{5}{12}$

C. $\frac{5}{6}$ ✓

D. $\frac{15}{32}$

Q2 Mathematics

The HCF of 117 & 195 is:

A. 3

B. 13

C. 39 ✓

D. 65

Q3 Mathematics

$64 \div 4^2 \times 2 + 2 =$

A. 4

B. 10 ✓

C. 1

D. 8

Q4 Mathematics

Rashi can cycle @ 12 km an hour and walk @ 4 km an hour. To cover a distance of 66 km, she takes 8.5 hours. How many kilometres did she cover on foot?

A. 24 km

B. 36 km

C. 30 km

D. 18 km ✓

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Q5 Mathematics

The LCM of 86 & 129 is:

A. 172

B. 258 ✓

C. 344

D. 516

Q6 Mathematics

Which of the following numbers is prime?

A. 133

B. 143

C. 153

D. 163 ✓

Q7 Mathematics

$\frac{5}{9}$, when multiplied by another number gives $\frac{10}{3}$. What is the other number?

A. $\frac{27}{2}$

B. 6 ✓

C. 3

D. $\frac{8}{3}$

Q8 Mathematics

When you reverse the digits of the number 14, the number increases by 27. How many other two-digit numbers increase by 27 when their digits are reversed?

A. 5 ✓

B. 6

C. 8

D. 9

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Q9 Mathematics

₹ 231 is divided in the ratio 7 : 4. The smaller share is equal to _____.

A. ₹147

B. ₹ 84 ✓

C. ₹ 66

D. ₹ 132

Q10 Mathematics

33 out of 60 is ____%.

A. 60

B. 58

C. 55 ✓

D. 52

Q11 Mathematics

The ratio of boys to girls in a school is 9 : 11. If 50 boys are admitted and 50 girls leave the school, the ratio becomes 13 : 15. The original number of girls in the school is:

A. 1925 ✓

B. 1650

C. 1575

D. 1850

Q12 Mathematics

A sum of money invested at 15% simple interest p.a. for 3 years yields the same interest as another sum invested at 12% simple interest p.a. for 5 years. What is the ratio of the two sums invested?

A. 5 : 3

B. 4 : 3 ✓

C. 5 : 4

D. 6 : 5

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Q13 Mathematics

After meeting with an accident, a train starts moving at $\frac{2}{3}$ its speed. Due to this, it is 45 minutes late. Find the original time of the journey beyond the point of the accident.

A. 90 minutes ✓

B. 45 minutes

C. 135 minutes

D. 120 minutes

Q14 Mathematics

In a computer game a builder can build a wall in 10 hours while a destroyer can demolish such a wall completely in 25 hours. Both the builder and the destroyer were initially set to work together on level ground. But after 15 hours the destroyer was taken out. What was the total time taken to build the wall?

A. 16 hours 20 mins

B. 16 hours ✓

C. 18 hours 24 mins

D. 17 hours 2 mins

Q15 Mathematics

A person driving at a speed of 48 km/h reaches office 1.5 minutes early while she reaches 4.5 minutes late if driving at 36 km/h. What is the distance (in km) that she is covering?

A. 15.6

B. 14.4 ✓

C. 15.4

D. 14.6

Q16 Mathematics

Two inlet pipes A and B can fill an empty cistern in 22 and 33 hours, respectively. They are switched on together but pipe B had to be closed 7 hours before the cistern was full. How many hours in all did it take the two pipes to fill the cistern?

A. 16 ✓

B. 15

C. 16.2

D. 14.2

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Q17 Mathematics

A clock is set at 5.00 am in the morning. How many degrees would the hour hand have cumulatively covered, when the time is 10 am?

A. 90°

B. 110°

C. 120°

D. 150° ✓

Q18 Mathematics

A man is 6 times as old as his son now. In 6 years' time, their ages will be in the ratio of 7 : 2. Find the current age of his son.

A. 5 years

B. 6 years ✓

C. 8 years

D. 10 years

Q19 Mathematics

The larger of the two angles made by the hour hand and the minute hand of a clock at 7 : 29 : 30 hours is:

A. 313.25°

B. 311.25°

C. 312.25° ✓

D. 314.25°

Q20 Mathematics

The length, breadth and height of a room are in the ratio 8 : 7 : 5. If the length halves, the breadth doubles and the height halves, by what percentage would the cost of painting the four walls of the room reduce?

A. 32.5

B. 35

C. 37.5

D. 40 ✓

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Q21 Mathematics

Two sides of a quadrilateral are 64 cm and 48 cm in length and the angle between them is 90°. The other two sides are 50 cm each. The other three angles of the quadrilateral are not right angles. What is the area of the quadrilateral?

A. $2{,}736\ cm^2$ ✓

B. $2{,}516\ cm^2$

C. $2{,}836\ cm^2$

D. $2{,}916\ cm^2$

Q22 Mathematics

$\tan\theta = \alpha \Rightarrow \tan^{-1}\alpha = \theta$ and $\cot\phi = \beta \Rightarrow \cot^{-1}\beta = \phi$. Then the value of $\tan^{-1}\gamma + \cot^{-1}\gamma$ is:

A. 30°

B. 45°

C. 60°

D. 90° ✓

Q23 Mathematics

One-fourth of a certain number exceeds one-fifth of its succeeding number by 3. Find the original number.

A. 44

B. 54

C. 59

D. 64 ✓

Q24 Mathematics

Five students, Pankaj, Qadar, Ram, Seema and Tarun, appeared for an examination and scored marks as follows:

Average of marks scored by Pankaj, Qadar and Ram is 70.
Average of marks scored by Pankaj, Qadar, Ram and Seema is 70.
Average of marks scored by Qadar, Ram, Seema and Tarun is 85.
Tarun scored 30 marks more than Seema.

How many marks did Pankaj score in the examination?

A. 80 marks

B. 40 marks ✓

C. 90 marks

D. 70 marks

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Q25 Mathematics

Given that $A = \tan 30^\circ$ and $B = \frac{\tan 60^\circ - \tan 30^\circ}{1 + \tan 60^\circ \tan 30^\circ}$ which of the relations stated below is true?

A. $A = B$ ✓

B. $A > B$

C. $A < B$

D. $A + B = 1$

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Mathematics 25 Questions • Answer Key

Q1 Mathematics

$\frac{5}{12}$ of a number is $\frac{3}{4}$. What is the number?

A. $1\frac{4}{5}$ ✓

B. $3\frac{1}{5}$

C. $1\frac{5}{16}$

D. $1\frac{7}{15}$

Q2 Mathematics

The HCF of 117 and another number is 13. The other number CANNOT be:

A. 130

B. 143

C. 156 ✓

D. 169

Q3 Mathematics

What is the square root of 16129?

A. 117

B. 143

C. 137

D. 127 ✓

Q4 Mathematics

5.4 × 0.0015 = ____ ?

A. 0.81

B. 0.081

C. 0.0081 ✓

D. 0.00081

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Q5 Mathematics

$3\sqrt{147}-\frac{7}{3}\sqrt{\frac{1}{3}}+7\sqrt{\frac{1}{3}}=?$

A. $\frac{203}{9}\sqrt{3}$ ✓

B. $\frac{200}{9}\sqrt{3}$

C. $\frac{403}{9}\sqrt{3}$

D. $\frac{400}{9}\sqrt{3}$

Q6 Mathematics

Which of the following numbers is divisible by 6?

A. 12340

B. 12344

C. 12346

D. 12348 ✓

Q7 Mathematics

Which of the numbers given below is divisible by 3?

A. 1111

B. 1311 ✓

C. 1411

D. 1711

Q8 Mathematics

276x1 is divisible by 3. What is the sum of the possible values of x?

A. 21

B. 18

C. 15 ✓

D. 12

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Q9 Mathematics

If $\frac{\sqrt{3}-1}{\sqrt{3}+1} = a + b\sqrt{3}$; then $a^2 + b^2 = ?$

A. 5 ✓

B. 6

C. 7

D. $\sqrt{8}$

Q10 Mathematics

Ramesh had 50 paise coins, ₹ 1 coins and ₹ 5 coins in the ratio of 2 : 3 : 5. The total amount of money with Ramesh is ₹ 116. What is the number of 50 paise coins with him?

A. 4

B. 8 ✓

C. 6

D. 12

Q11 Mathematics

A sum of money was divided between Shivani and Pranita in the ratio 5 : 7. If Pranita gave ₹ 5 to Shivani, the ratio would change to 3 : 4. What is the sum of money that got divided?

A. ₹ 432

B. ₹ 408

C. ₹ 396

D. ₹ 420 ✓

Q12 Mathematics

The ratio between two numbers is 19 : 26. If 2 is added to the smaller number, the ratio changes to 3 : 4. What is the larger number?

A. 104 ✓

B. 91

C. 130

D. 78

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Q13 Mathematics

Raksha can complete a piece of work in 27 days while Esther takes 45 days to complete the work. They start working together, but Raksha leaves 9 days before the work gets over. For how many days does Esther work?

A. 13.5

B. 18

C. 22.5 ✓

D. 27

Q14 Mathematics HINDI - no English version saved

Aऔर B 1.8 दिनों में एक काम पूरा कर सकते हैं। हालांकि ,यदि A अकेले काम करता है ,तो आधा काम पूरा करता है और अवकाश लेता है और फिर B अकेले काम करता है और बाकी काम पूरा करता है ,काम पूरा करने में3 .75 दिनों का समय लगता है। यदिB , Aसे अधिक कुशल है ,तो B ने खुद इस काम को पूरा करने में कुल कितना समय लिया होगा?

A. 2.25

B. 2.7

C. 3.0 ✓

D. 3.3

Q15 Mathematics

A 141.5 m long train, travelling at 57 km/h, crosses a platform in 39 seconds. What is the length of the platform?

A. 461 m

B. 476 m ✓

C. 613.5 m

D. 586 m

Q16 Mathematics

Ankita is two years younger than Anu. Four years hence Anu will be twice as old as Ankita's age three years ago. Find the present ages of Ankita and Anu.

A. 12 years and 14 years ✓

B. 14 years and 16 years

C. 15 years and 17 years

D. 13 years and 15 years

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Q17 Mathematics

A tank can be filled by tap A in 3 hrs and B can fill the same in 4 hrs. Tap C can empty the filled tank in 6 hrs. If all the three taps are opened simultaneously, how much time will be taken to fill the tank completely?

A. 8 hrs

B. $\frac{10}{7}$ hrs

C. $\frac{12}{5}$ hrs ✓

D. 5 hrs

Q18 Mathematics

A tank can be filled in 10 hours through a tap. However, due to a leak it takes 11 hours to fill. The tap is stopped when the tank in full. How many hours would it take the tank to be empty due to the leak?

A. 100

B. 130

C. 50

D. 110 ✓

Q19 Mathematics

The radius of a sphere is equal to thrice the radius of the base of a cylinder. The height of the cylinder is nine times the radius of its base. If the numerical values of the total surface area of the cylinder and that of the volume of the sphere are the same, what is the height of the cylinder?

A. 4.5 units

B. 2.25 units

C. 5 units ✓

D. 3 units

Q20 Mathematics

A tent is such that the bottom part is a cylinder to a height of 24 m with a diameter of 126 m; and the top part is a cone with the same diameter of the base of 126 m and slant height of 80 m. The canvas is 8 m wide. Calculate the length of the canvas required to make the tent.

A. 3190 m

B. 3168 m ✓

C. 3296 m

D. 3020 m

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Q21 Mathematics

If $\sin\theta = \cos\theta$, then $\sec\theta = ?$

A. 1

B. $\sqrt{2}$ ✓

C. $\frac{1}{\sqrt{2}}$

D. 2

Q22 Mathematics

$\text{cosec}\theta = \alpha \Rightarrow \text{cosec}^{-1}\alpha = \theta$ and $\sec\phi = \beta \Rightarrow \sec^{-1}\beta = \phi$. Then the value of $\text{cosec}^{-1}\gamma + \sec^{-1}\gamma =$

A. $30°$

B. $45°$

C. $60°$

D. $90°$ ✓

Q23 Mathematics

If the equations $20x + 5y + 11 = 0$ and $50x - ky - 9 = 0$ have no solution, then the value of k is:

A. 12.5

B. 18

C. -12.5 ✓

D. -18

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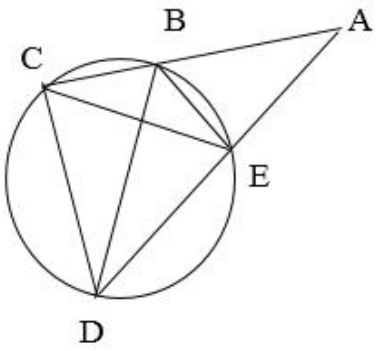
Q24 Mathematics



In the figure given above, $\angle BAE = 30°$, $\angle ABE = 80°$ and $\angle DBE = 50°$. What is the measure of $\angle BCE$?

A. $10°$

B. $20°$ ✓

C. $25°$

D. $5°$

Q25 Mathematics

The mean of three numbers is 21. The range of this data set is 12 and the difference between the two smallest numbers is 3. The greatest of the three numbers is:

A. 24

B. 25

C. 27

D. 28 ✓

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