



RRB JE 2024 CBT-1

Junior Engineer, DMS, CMA · CEN 03/2024 · CBT-1 · Mathematics — Topic-wise

Kannada

27 Chapters · 269 Questions · Official Answer Key

About this Compilation

Every **Mathematics** question asked across all 9 shifts of the **RRB JE 2024 CBT-1** examination (CEN 03/2024), regrouped by **chapter** instead of by shift, so you can revise one topic end to end. The correct option is marked as per the official answer key.

Sections. The JE CBT-1 paper is not divided into sections and the saved paper carries no section labels. In this book the questions of every shift are grouped by subject (Mathematics, General Intelligence and Reasoning, General Awareness, General Science), assigned from our topic tags, so the section counts may differ slightly from the notified pattern.

1 question without question text. The saved paper record has no question text or figure for it; it is printed with its options and official answer and marked in the text.

252 of these 269 questions are shown in English. RRB did not release them in Kannada to any candidate whose response sheet we could reach, so the official English version is printed instead and marked with an **ENGLISH** chip. Nothing here is machine translated.

5 duplicate questions removed. RRB repeated these word-for-word across different shifts. They appear once here, so a chapter never prints the same question twice - the complete and section-wise books still carry every occurrence.

How to use

- Use the **Index** to jump to any chapter (clickable).
- Within a chapter, questions on the same idea are placed together.
- The correct answer is highlighted in green with a tick.
- The same paper is also available complete and section-wise.



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Arithmetic

18 Questions • Answer Key

Q1 Percentage change cost **ENGLISH**

The cost of a washing machine is 25% less than the cost of a TV. If the cost of the washing machine increases by 82% and that of the TV decreases by 16%, then what is the change in the total cost of 8 washing machines and 9 TVs?

A. Decrease by 24%

B. Increase by 20%

C. Decrease by 21%

D. Increase by 23.2% ✓

Q2 Percentage change in cost

ಒಂದು ವಾಷಿಂಗ್ ಮಶೀನ್‌ನ ಬೆಲೆಯು ಒಂದು ಟಿ.ವಿ.ಯ ಬೆಲೆಗಿಂತ 75% ರಷ್ಟು ಕಡಿಮೆ ಇದೆ. ಒಂದು ವೇಳೆ ವಾಷಿಂಗ್ ಮಶೀನ್‌ನ ಬೆಲೆಯನ್ನು 77% ರಷ್ಟು ಹೆಚ್ಚು ಮಾಡಿ, ಟಿ.ವಿ.ಯ ಬೆಲೆಯನ್ನು 27% ರಷ್ಟು ಕಡಿಮೆ ಮಾಡಿದರೆ, 8 ವಾಷಿಂಗ್ ಮಶೀನ್‌ಗಳು ಮತ್ತು 2 ಟಿ.ವಿ ಗಳ ಒಟ್ಟು ಬೆಲೆಗಳಲ್ಲಿ ಎಷ್ಟು ಬದಲಾವಣೆ ಉಂಟಾಗುತ್ತದೆ?

A. 22% ರಷ್ಟು ಇಳಿಕೆ

B. 31% ರಷ್ಟು ಹೆಚ್ಚಳ

C. 25% ರಷ್ಟು ಹೆಚ್ಚಳ ✓

D. 29% ರಷ್ಟು ಇಳಿಕೆ

Q3 Percentage change in cost **ENGLISH**

The cost of a washing machine is 40% less than the cost of a TV. If the cost of the washing machine increases by 64% and that of the TV decreases by 20%, then what is the change in the total cost of 5 washing machines and 7 TVs?

A. Decrease by 5%

B. Increase by 13%

C. Decrease by 4%

D. Increase by 5.2% ✓

Q4 Percentage increase **ENGLISH**

A number when increased by 50 %, gives 2850. The number is:

A. 5700

B. 3800

C. 950

D. 1900 ✓

Q5 Percentage increase **ENGLISH**

A number when increased by 50 %', gives 2880. The number is:

A. 5760

B. 960

C. 1920 ✓

D. 3840

Q6 Percentage increase **ENGLISH**

A number when increased by 50 %', gives 2970. The number is:

A. 3960

B. 990

C. 5940

D. 1980 ✓

Q7 Percentage increase number

ಒಂದು ಸಂಖ್ಯೆಯನ್ನು 50% ರಷ್ಟು ಹೆಚ್ಚಿಸಿದಾಗ ಅದು 2820 ಆಗುತ್ತದೆ. ಹಾಗಾದರೆ ಆ ಸಂಖ್ಯೆಯು:

A. 940

B. 3760

C. 5640

D. 1880 ✓



Q8 Percentage increase number ENGLISH

A number when increased by 50 %', gives 3030. The number is:

- A. 1010
- B. 4040
- C. 6060
- D. 2020

**Q9 Percentage increase number** ENGLISH

A number when increased by 50 %', gives 2910. The number is:

- A. 3880
- B. 970
- C. 1940
- D. 5820

**Q10 Percentage less than** ENGLISH

If A's salary is 37 % more than that of B, then how much percent is B's salary less than that of A (correct to 2 decimal places)?

- A. 30.86%
- B. 27.01%
- C. 29.85%
- D. 29.04%

**Q11 Percentage more less** ENGLISH

If A's salary is 72 % more than that of B, then how much percent is B's salary less than that of A (correct to 2 decimal places)?

- A. 45.3%
- B. 41.86%
- C. 44.19%
- D. 44.24%

**Q12 Percentage more less** ENGLISH

If A's salary is 31 % more than that of B, then how much percent is B's salary less than that of A (correct to 2 decimal places)?

- A. 21.53%
- B. 23.66%
- C. 27.46%
- D. 21.74%

**Q13 Percentage reverse** ENGLISH

A number when increased by 50 %', gives 2760. The number is:

- A. 3680
- B. 920
- C. 1840
- D. 5520

**Q14 Percentage reverse** ENGLISH

A number when increased by 50 %', gives 2790. The number is:

- A. 1860
- B. 5580
- C. 930
- D. 3720

**Q15 Percentage reverse** ENGLISH

A number when increased by 50 %', gives 3120. The number is:

- A. 1040
- B. 6240
- C. 2080
- D. 4160



Q16 Salary percentage ENGLISH

A man spends 76% of his monthly salary (in ₹) on the rent of his house. If every month he also spends ₹813 on his conveyance and ₹2508 on his grocery and saves the remaining ₹687, his monthly salary (in ₹) is:

A. 16617

B. 16700



C. 16621

D. 16611

Q17 Successive percentage change ENGLISH

The population of a town in 1927 was 232300. If its population increased in two successive decades by 30% in each decade, the population of the town in 1947 was:

A. 392587



B. 392585

C. 392583

D. 392592

Q18 Successive percentage change ENGLISH

The population of a town in 1974 was 222900. If its population increased in two successive decades by 50% in each decade, the population of the town in 1994 was:

A. 501525



B. 501526

C. 501521

D. 501520



Arithmetic

27 Questions • Answer Key

Q1 Discount and profit ENGLISH

A man sold an article for ₹330 by first giving a $d\%$ discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1320, then what is the value of d ?

A. 37.5



B. 36.9

C. 41.1

D. 38.4

Q2 Discount and profit ENGLISH

A shopkeeper lists the price of a fan at 25% above its cost price and offers a 10% discount on its list price. If he earns a profit of ₹117, then what is the list price (in ₹) of the fan?

A. 896

B. 1308

C. 1170



D. 1346

Q3 Discount and profit ENGLISH

A man sold an article for ₹533 by first giving a $d\%$ discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1025, then what is the value of d ?

A. 24



B. 29

C. 21

D. 22

Q4 Discount and profit ENGLISH

A man sold an article for ₹687 by first giving a $d\%$ discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1145, then what is the value of d ?

A. 19

B. 23

C. 20



D. 16

Q5 Loss gain percent ENGLISH

A trader lost 10% by selling a shirt for ₹840. He will gain $x\%$ by selling it for ₹1540, the value of x is:

A. 75

B. 65



C. 55

D. 80

Q6 Profit discount list price ENGLISH

A shopkeeper lists the price of a fan at 20% above its cost price and offers a 10% discount on its list price. If he earns a profit of ₹150, then what is the list price (in ₹) of the fan?

A. 1969

B. 2054

C. 2250



D. 2172

Q7 Profit gain percentage ENGLISH

A vendor bought lemons at 40 for a rupee. How many must he sell for a rupee to gain 25%?

A. 33

B. 32



C. 36

D. 34

Q8 Profit loss mixture ENGLISH

Mahesh purchased 10 kg of rice at the rate of ₹35 per kg and 38 kg of rice at ₹46 per kg. He sold the mixture at the rate of ₹43.5 per kg. Find his loss (in ₹).

A. 10



B. 5

C. 15

D. 18



Q9 Profit loss mixture ENGLISH

Amit purchased 10 kg of rice at the rate of ₹35 per kg and 39 kg of rice at ₹44 per kg. He sold the mixture at the rate of ₹42 per kg. Find his loss (in ₹).

A. 16

B. 13

C. 8



D. 3

Q10 Profit percent ENGLISH

A trader lost 10% by selling a shirt for ₹850. He will gain x%' by selling it for ₹1360, the value of x is:

A. 34

B. 59

C. 44



D. 54

Q11 Profit percent ENGLISH

A trader lost 10% by selling a shirt for ₹850. He will gain x%' by selling it for ₹1530, the value of x is:

A. 72

B. 62



C. 52

D. 77

Q12 Profit percentage selling price ENGLISH

A shopkeeper bought an article for ₹740. At what price (in ₹) should he sell the article to make 20% profit?

A. 900

B. 876

C. 592

D. 888

**Q13 Profit percentage selling price** ENGLISH

A shopkeeper bought an article for ₹760. At what price (in ₹) should he sell the article to make 30% profit?

A. 988



B. 532

C. 976

D. 1000

Q14 Selling price profit ENGLISH

A shopkeeper bought an article for ₹740. At what price (in ₹) should he sell the article to make 30% profit?

A. 518

B. 950

C. 962



D. 974

Q15 Successive discount ENGLISH

A shopkeeper sells an item for ₹770.7 after giving two successive discounts of 58% and 80% on its marked price. Had he not given any discount, he would have earned a profit of 25%. What is the cost price (in ₹) of the item?

A. 7322

B. 7353

C. 7340



D. 7315

Q16 Successive discount ENGLISH

A man sold an article for ₹360 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹2250, then what is the value of d?

A. 38

B. 42



C. 41

D. 45

Q17 Successive discount ENGLISH

A man sold an article for ₹481 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1924, then what is the value of d?

A. 42.5

B. 32

C. 37.5



D. 33



Q18 Successive discounts

ಒಬ್ಬ ವ್ಯಕ್ತಿಯು ಒಂದು ವಸ್ತುವಿನ ನಮೂದಿತ ಬೆಲೆಯ ಮೇಲೆ ಮೊದಲಿಗೆ $d\%$ ರಿಯಾಯಿತಿ ನೀಡಿದನು, ನಂತರ ಅಷ್ಟೇ ರಿಯಾಯಿತಿಯ ಮೊತ್ತಕ್ಕೆ ಸಮನಾದ (₹ ಗಳಲ್ಲಿ) ಇನ್ನೊಂದು ರಿಯಾಯಿತಿಯನ್ನು ನೀಡಿದನು, ಮತ್ತು ನಂತರ ಆ ವಸ್ತುವನ್ನು ₹346 ಕ್ಕೆ ಮಾರಾಟ ಮಾಡಿದನು. ಒಂದು ವೇಳೆ ಆ ವಸ್ತುವಿನ ನಮೂದಿತ ಬೆಲೆಯು ₹1730 ಆಗಿದ್ದರೆ, d ಯ ಮೌಲ್ಯ ಎಷ್ಟು?

A. 38

B. 43

C. 40



D. 44

Q19 Successive discounts **ENGLISH**

A man sold an article for ₹390 by first giving a $d\%$ discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹3900, then what is the value of d ?

A. 48

B. 45



C. 50

D. 41

Q21 Cost price equals selling price **ENGLISH**

The selling price of 25 books is equal to the cost price of 41 books. Find the loss or gain percentage.

A. 64 % gain

B. $\frac{100}{16}\%$ gainC. $\frac{100}{16}\%$ loss

D. 64 % loss

Q22 Cost selling price **ENGLISH**

The selling price of 30 books is equal to the cost price of 45 books. Find the loss or gain percentage.

A. 50 % gain

B. $\frac{100}{15}\%$ gain

C. 50 % loss

D. $\frac{100}{15}\%$ loss**Q20 Successive discounts profit** **ENGLISH**

A shopkeeper sells an item for ₹287.7 after giving two successive discounts of 86% and 85% on its marked price. Had he not given any discount, he would have earned a profit of 37%. What is the cost price (in ₹) of the item?

A. 10046

B. 10038

C. 10000



D. 9958



Q23 Dishonest weight profit ENGLISH

A trader claims to sell rice at a profit of 74%, but also dishonestly uses a weight which is 9% less than what is mentioned on it. Find the total percentage of profit earned by the trader. (Round the answer to the nearest whole number.)

A. 91%



B. 89%

C. 87%

D. 94%

Q24 False weight profit ENGLISH

A trader claims to sell flour at a profit of 35%, but also dishonestly uses a weight which is 16% less than what is mentioned on it. Find the total percentage of profit earned by the trader. (Round the answer to the nearest whole number.)

A. 63%

B. 60%

C. 56%

D. 61%

**Q25 Profit and Loss** ENGLISH

By selling an article at $\frac{2}{5}$ of its actual selling price, Manav incurs a loss of 27%. If he sells it at 84% of its actual selling price, then the profit percentage is:

A. 56.9%

B. 52.6%

C. 53.3%



D. 55.5%

Q26 Profit and Loss ENGLISH

By selling an article at $\frac{5}{14}$ of its actual selling price, Hitesh incurs a loss of 20%. If he sells it at 80% of its actual selling price, then the profit percentage is:

A. 80.7%

B. 79.2%



C. 81.2%

D. 81.9%

Q27 Profit and Loss ENGLISH

By selling an article at $\frac{2}{5}$ of its actual selling price, Ramesh incurs a loss of 16%. If he sells it at 86% of its actual selling price, then the profit percentage is:

A. 83.4%

B. 80.6%



C. 82.6%

D. 81.8%



Arithmetic

9 Questions • Answer Key

Q1 Simple interest by dates

₹4000 ಮೊತ್ತದ ಮೇಲೆ ವಾರ್ಷಿಕ 5.25% ಬಡ್ಡಿದರದಲ್ಲಿ 12 ಫೆಬ್ರವರಿ 2024 ರಿಂದ 13 ಏಪ್ರಿಲ್ 2024ರ ತನಕ ದೊರೆಯುವ ಸರಳ ಬಡ್ಡಿಯನ್ನು (ಸಮೀಪದ ಪೂರ್ಣಾಂಕ ₹ ಗೆ ಸರಿಹೊಂದಿಸಿ) ಕಂಡುಹಿಡಿಯಿರಿ.

A. 36

B. 34

C. 35

D. 33

Q2 Simple interest by dates ENGLISH

Find the simple interest (in closest integral ₹) on ₹3000 at 8% per annum rate of interest for the period from 22 February 2024 to 23 April 2024

A. 38

B. 40

C. 39

D. 41

Q3 Simple interest by dates ENGLISH

Find the simple interest (in closest integral ₹) on ₹3000 at 8% per annum rate of interest for the period from 25 February 2024 to 26 April 2024

A. 39

B. 41

C. 40

D. 38

Q4 Simple interest dates ENGLISH

Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 11 February 2024 to 12 April 2024

A. 35

B. 36

C. 33

D. 34

Q5 Simple interest dates ENGLISH

Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 5 February 2024 to 6 April 2024

A. 33

B. 35

C. 34

D. 36

Q6 Simple interest dates ENGLISH

Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 3 February 2024 to 4 April 2024

A. 34

B. 35

C. 33

D. 36

Q7 Simple interest dates ENGLISH

Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 14 February 2024 to 15 April 2024

A. 33

B. 36

C. 35

D. 34

Q8 Simple interest dates ENGLISH

Find the simple interest (in closest integral ₹) on ₹4000 at 5.25% per annum rate of interest for the period from 4 February 2024 to 5 April 2024

A. 35

B. 34

C. 33

D. 36



Q9 Simple interest dates **ENGLISH**

Find the simple interest (in closest integral ₹) on ₹3000 at 8% per annum rate of interest for the period from 23 February 2024 to 24 April 2024

A. 39

B. 38

C. 40



D. 41

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Arithmetic

9 Questions • Answer Key

Q1 CI second year ENGLISH

If the interest earned during the 2nd year on a certain sum is ₹4719, and the rate of interest is 10% per annum compounded annually, then the sum is:

- A. ₹42045
- B. ₹42445
- C. ₹42900
- D. ₹41905



Q2 CI time ENGLISH

Sakshi invested a sum of ₹8900 at 10% per annum compound interest, compounded annually. If she received an amount of ₹10769 after n years, the value of n is:

- A. 3
- B. 1.60000002384186
- C. 2
- D. 2.4



Q3 Compound interest ENGLISH

If the interest earned during the 2nd year on a certain sum is ₹3726, and the rate of interest is 15% per annum compounded annually, then the sum is:

- A. ₹21185
- B. ₹20835
- C. ₹20885
- D. ₹21600



Q4 Compound interest second year ENGLISH

If the interest earned during the 2nd year on a certain sum is ₹9911, and the rate of interest is 10% per annum compounded annually, then the sum is:

- A. ₹90100
- B. ₹90055
- C. ₹90115
- D. ₹90080



Q5 Compound interest time ENGLISH

Komal invested a sum of ₹5000 at 20% per annum compound interest, compounded annually. If she received an amount of ₹8640 after n years, the value of n is:

- A. 3.5
- B. 4
- C. 2.5
- D. 3



Q6 Compound interest time ENGLISH

Suman invested a sum of ₹3500 at 20% per annum compound interest, compounded annually. If she received an amount of ₹6048 after n years, the value of n is:

- A. 4
- B. 2
- C. 3
- D. 2.6



Q7 SI CI difference ENGLISH

If at same rate of interest, in 2 years, the simple interest is ₹56 and compound interest is ₹58, then what is the principal (in ₹)?

- A. 396
- B. 392
- C. 385
- D. 387



Q8 Simple and compound interest ENGLISH

If at same rate of interest, in 2 years, the simple interest is ₹56 and compound interest is ₹72, then what is the principal (in ₹)?

- A. 42
- B. 49
- C. 53
- D. 44



Q9 Simple compound interest **ENGLISH**

If at same rate of interest, in 2 years, the simple interest is ₹56 and compound interest is ₹64, then what is the principal (in ₹)?

A. 93

B. 91

C. 98



D. 102

Blackbook



Arithmetic

32 Questions • Answer Key

Q1 Mean proportional **ENGLISH**

If the mean proportional of P and 100 is 50, then find the value of P.

A. 28

B. 25



C. 22

D. 24

Q2 Mean proportional **ENGLISH**

If the mean proportional of P and 125 is 100, then find the value of P.

A. 82

B. 80



C. 77

D. 79

Q3 Profit sharing ratio **ENGLISH**

Sangeeta and Hemlata invest in a business in the ratio 1 : 3. If total profit is Rs. 2568, then what is difference between the profit (in Rs.) of Sangeeta and Hemlata?

A. 1184

B. 1334

C. 1284



D. 1384

Q4 Profit sharing ratio **ENGLISH**

Pooja and Ritu invest in a business in the ratio 4 : 1. If total profit is Rs. 1480, then what is difference between the profit (in Rs.) of Pooja and Ritu?

A. 988

B. 938

C. 888



D. 788

Q5 Profit sharing ratio **ENGLISH**

A, B and C invest sum in the ratio 76 : 37 : 52 respectively. If they earned total profit of ₹3850 at the end of year, then what is the difference between share of B and C?

A. ₹360

B. ₹305

C. ₹350



D. ₹203

Q6 Profit sharing ratio **ENGLISH**

A company earns a profit (in ₹) that is distributed among the company's three partners in the ratio of 4 : 12 : 5. If the difference between the smallest and the largest shares is ₹20208, the total profit (in ₹) of the company is:

A. 53097

B. 53096

C. 53060

D. 53046



Q7 Ratio and Proportion

12 m ಎತ್ತರದ ಒಂದು ಮರವು 16 m ಉದ್ದದ ನೆರಳನ್ನು ಮೂಡಿಸಿದರೆ, ಒಂದು ವಿದ್ಯುತ್ ಕಂಬವು 42 m ಉದ್ದದ ನೆರಳನ್ನು ಮೂಡಿಸುತ್ತದೆ. ಹಾಗಾದರೆ ಆ ವಿದ್ಯುತ್ ಕಂಬದ ಉದ್ದವನ್ನು ಕಂಡುಹಿಡಿಯಿರಿ.

A. 30.5 m

B. 33 m

C. 29 m

D. 31.5 m

Q8 Ratio average **ENGLISH**

The average price of three items of furniture is Rs 16440. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 3288

B. 7672

C. 9864



D. 5480



Q9 Ratio average **ENGLISH**

The average price of three items of furniture is Rs 15765. If their prices are in the ratio 3:5:7, the price of the costliest item (in Rs) is

A. 5255

B. 3153

C. 22071



D. 7357

Q10 Ratio average price **ENGLISH**

The average price of three items of furniture is Rs 16845. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 10107



B. 5615

C. 7861

D. 3369

Q11 Ratio average price **ENGLISH**

The average price of three items of furniture is Rs 16455. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 7679

B. 9873



C. 5485

D. 3291

Q12 Ratio average price **ENGLISH**

The average price of three items of furniture is Rs 16830. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 10098



B. 3366

C. 7854

D. 5610

Q13 Ratio average price **ENGLISH**

The average price of three items of furniture is Rs 16890. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 5630

B. 3378

C. 7882

D. 10134

**Q14** Ratio average price **ENGLISH**

The average price of three items of furniture is Rs 16860. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 10116



B. 3372

C. 7868

D. 5620

Q15 Ratio basic **ENGLISH**

The ratio of numbers of girls and boys participating in sports of a school is 1 : 5. If the number of girls is 239, determine the number of boys participating in the sports.

A. 1225

B. 1215

C. 1195



D. 1170

Q16 Ratio chain **ENGLISH**

If $A:B = 1 : 3$, $B:C = 4 : 3$ and $C : D = 6 : 7$, then $A:B:C:D$ is

A. 8:24:16:21

B. 8:22:18:21

C. 8:24:18:21



D. 6:24:18:21



Q17 Ratio change **ENGLISH**

Two numbers are in the ratio 2 : 4. If the first number is increased by 4 and the second number is decreased by 14, then the ratio becomes 8 : 5. What is the sum of the original two numbers?

A. 36



B. 41

C. 24

D. 38

Q18 Ratio change **ENGLISH**

Two numbers are in the ratio 5 : 8. If the first number is increased by 13 and the second number is decreased by 6, then the ratio becomes 4 : 6. What is the sum of the original two numbers?

A. 665

B. 650

C. 681

D. 663

**Q19** Ratio of numbers **ENGLISH**

Two numbers are in the ratio 7 : 5. If the first number is increased by 14 and the second number is decreased by 5, then the ratio becomes 4 : 2. What is the sum of the original two numbers?

A. 106

B. 96



C. 115

D. 111

Q20 Ratio share **ENGLISH**

₹4800 were divided among P, Q and R, such that 6 times of P = 3 times of Q = 8 times of R. Find the share of R.

A. ₹1034

B. ₹815

C. ₹1068

D. ₹960

**Q21** Ratio share **ENGLISH**

₹3300 were divided among P, Q and R, such that 4 times of P = 7 times of Q = 2 times of R. Find the share of R.

A. ₹2046

B. ₹1848



C. ₹2028

D. ₹2024

Q22 Share by multiples **ENGLISH**

₹5400 were divided among P, Q and R, such that 6 times of P = 3 times of Q = 8 times of R. Find the share of R.

A. ₹1080



B. ₹1245

C. ₹947

D. ₹1235

Q23 Smallest ratio **ENGLISH**

Which of the following ratio is smallest?

A. 15 : 33

B. 10 : 36



C. 17 : 39

D. 23 : 48

Q24 Smallest ratio **ENGLISH**

Which of the following ratio is smallest?

A. 28 : 39

B. 22 : 47

C. 21 : 49

D. 20 : 51

**Q25** Smallest ratio **ENGLISH**

Which of the following ratio is smallest?

A. 29 : 55

B. 15 : 47

C. 18 : 42

D. 19 : 60



Q26 Third proportional **ENGLISH**

If third proportional of 12 and 24 be x, then what is the value of x?

A. 50

B. 45

C. 48



D. 49

Q27 Inverse proportion **ENGLISH**

If x is inversely proportional to y, and y = 7 when x = 5, find the value of x, when y = 90.

A. $\frac{7}{19}$

B. $\frac{9}{21}$

C. $\frac{8}{19}$

D. $\frac{7}{18}$

**Q28** Inverse proportion **ENGLISH**

If x is inversely proportional to y, and y = 6 when x = 7, find the value of x, when y = 64.

A. $\frac{21}{32}$



B. $\frac{21}{33}$

C. $\frac{22}{33}$

D. $\frac{23}{35}$



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Q29 Inverse proportion **ENGLISH**

If x is inversely proportional to y , and $y = 5$ when $x = 2$, find the value of x , when $y = 41$.

A. $\frac{11}{42}$

B. $\frac{10}{41}$ ✓

C. $\frac{10}{42}$

D. $\frac{12}{44}$

Q30 Inverse variation **ENGLISH**

If x varies inversely as $y^3 - 1$ and is equal to 7 when $y = 2$, find x when $y = 6$.

A. $\frac{50}{216}$

B. $\frac{51}{215}$

C. $\frac{49}{215}$ ✓

D. $\frac{49}{216}$

Q31 Ratio and Proportion **ENGLISH**

If 214 apples were distributed among Ajay, Amit, and Amar in the ratio $\frac{1}{5} : \frac{1}{7} : \frac{1}{6}$, how many apples did the Amar get?

A. 40

B. 70 ✓

C. 100

D. 80

Q32 Ratio and Proportion **ENGLISH**

If 546 apples were distributed among Neeraj, Vidya, and Mohan in the ratio $\frac{1}{6} : \frac{1}{2} : \frac{1}{3}$, how many apples did the Mohan get?

A. 182 ✓

B. 202

C. 172

D. 192



Arithmetic

20 Questions • Answer Key

Q1 Average added students **ENGLISH**

The average marks of some students in a class is 75. When five students are included, the average becomes 78 and the marks of those five students are 80, 85, 89, 81 and 82. Find the total number of students.

A. 9



B. 10

C. 6

D. 8

Q2 Average age **ENGLISH**

The average age of Mohan and his four friends is 36 years. Mohan is 5 years older than the average age of his four friends. Determine Mohan's age in years.

A. 44

B. 42

C. 40



D. 38

Q3 Average basic **ENGLISH**

The sum of 8 numbers is 336. Find their average number.

A. 42



B. 40

C. 43

D. 41

Q4 Average consecutive numbers **ENGLISH**

The average of four consecutive odd numbers is 36. What is the greatest of these numbers?

A. 41

B. 39



C. 43

D. 37

Q5 Average consecutive numbers **ENGLISH**

The average of seven consecutive odd numbers is 41. What is the smallest of these numbers?

A. 37

B. 33

C. 35



D. 39

Q6 Average natural numbers

1 ರಿಂದ 91ರ ವರೆಗಿನ ಎಲ್ಲಾ ಸ್ವಾಭಾವಿಕ ಸಂಖ್ಯೆಗಳ ಸರಾಸರಿ ಎಷ್ಟು?

A. 46.5

B. 46



C. 47

D. 45.5

Q7 Average natural numbers **ENGLISH**

What is the average of all the natural numbers from 1 to 92?

A. 47.5

B. 46.5



C. 46

D. 47

Q8 Average natural numbers **ENGLISH**

What is the average of all the natural numbers from 1 to 87?

A. 44.5

B. 43.5

C. 45

D. 44



Q9 Average natural numbers ENGLISH

What is the average of all the natural numbers from 1 to 98?

A. 49.5



B. 49

C. 50.5

D. 50

Q10 Average natural numbers ENGLISH

What is the average of all the natural numbers from 1 to 59?

A. 31

B. 30.5

C. 30



D. 29.5

Q11 Average natural numbers ENGLISH

What is the average of all the natural numbers from 1 to 95?

A. 48.5

B. 48



C. 49

D. 47.5

Q12 Average natural numbers ENGLISH

What is the average of all the natural numbers from 1 to 97?

A. 50

B. 49



C. 49.5

D. 48.5

Q13 Average natural numbers ENGLISH

What is the average of all the natural numbers from 1 to 94?

A. 48

B. 47.5



C. 47

D. 48.5

Q14 Average price ratio ENGLISH

The average price of three items of furniture is Rs 16800. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 10080



B. 7840

C. 5600

D. 3360

Q15 Average price ratio ENGLISH

The average price of three items of furniture is Rs 16875. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

A. 10125



B. 7875

C. 5625

D. 3375

Q16 Average remaining ENGLISH

The average score of a cricketer in 20 matches is 40 runs. If his highest score in a match was 78 runs, what is the average of his scores in the remaining 19 matches?

A. 36

B. 34

C. 38



D. 40

Q17 Average removed number ENGLISH

If the average of 9 numbers is 17 and one number is removed, the average of the remaining 8 numbers becomes 15. What is the value of the removed number?

A. 33



B. 37

C. 35

D. 39



Q18 Average replaced members ENGLISH

The average age of 40 boys in a class is 18 years. One boy, aged 26 years left the class, and two new boys joined the class. If the average age of all boys now in the class remains 18 years, then find the average age of the two newcomers.

A. 24 years

B. 20 years

C. 22 years



D. 21 years

Q19 Corrected average marks ENGLISH

The average marks of a student in six subjects is 94. After re-evaluation in three subjects the marks were changed to 89 from 75, 90 from 82 and 88 from 80. In the remaining subjects, the marks remained unchanged. Find the new average marks.

A. 95

B. 97

C. 98

D. 99

**Q20** Weighted average sections ENGLISH

There are total 120 students in three sections A, B and C of Class 10. The average marks of the three sections is 85. The average marks of section B and C is 88 and the average marks of section A is 78. Find the number of students in section A.

A. 33

B. 36



C. 24

D. 28



Arithmetic

11 Questions • Answer Key

Q1 Combined work ENGLISH

A and B complete a work in 18 days. If A alone can do it in 54 days then, B alone can do in _____ (days).

A. 26

B. 28

C. 29

D. 27 ✓

Q2 Combined work ENGLISH

A and B can do a piece of work in 2 days and 42 days, respectively. The number of days [Correct to one decimal place] required to complete the work if both A and B work together is:

A. 3.3

B. 1.3

C. 5.1

D. 1.9 ✓

Q3 Combined work days ENGLISH

A and B complete a work in 17 days. If A alone can do it in 34 days then, B alone can do in _____ (days).

A. 34 ✓

B. 35

C. 36

D. 33

Q4 Men days work

50 ಪುರುಷರು ಒಂದು ಕೆಲಸವನ್ನು 12 ದಿನಗಳಲ್ಲಿ ಪೂರ್ಣಗೊಳಿಸಬಲ್ಲರು. ಹಾಗಾದರೆ ಅದೇ ಕೆಲಸವನ್ನು 50 ದಿನಗಳಲ್ಲಿ ಮುಗಿಸಲು ಬೇಕಾಗುವ ಪುರುಷರ ಸಂಖ್ಯೆಯು:

A. 19

B. 15

C. 12 ✓

D. 11

Q5 Men days work ENGLISH

17 men can dig a ditch 26 m long in 18 days, working 8 hours a day. How many more men should be engaged to dig a similar ditch 39 m long in 6 days, each man now working 9 hours a day?

A. 48

B. 53

C. 55

D. 51 ✓

Q6 Men days work ENGLISH

44 men can do a piece of work in 48 days. The number of men required to complete the same work in 8 days is:

A. 264 ✓

B. 260

C. 266

D. 261

Q7 Men days work ENGLISH

35 men can do a piece of work in 48 days. The number of men required to complete the same work in 21 days is:

A. 77

B. 72

C. 80 ✓

D. 79

Q8 Men days work ENGLISH

9 men can do a piece of work in 21 days. The number of men required to complete the same work in 3 days is:

A. 62

B. 64

C. 63 ✓

D. 67



Q9 Men days work **ENGLISH**

If 330 persons can complete the construction of a shopping complex in 50 days, how many persons are required to complete the same work in 30 days?

A. 198

B. 450

C. 550



D. 505

Q10 Two persons work **ENGLISH**

A and B can do a piece of work in 8 days and 37 days, respectively. The number of days [Correct to one decimal place] required to complete the work if both A and B work together is:

A. 7.1

B. 10.7

C. 6.5



D. 7.7

Q11 Two persons work **ENGLISH**

A and B can do a piece of work in 4 days and 46 days, respectively. The number of days [Correct to one decimal place] required to complete the work if both A and B work together is:

A. 5.5

B. 6.9

C. 6.8

D. 3.6



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Arithmetic

9 Questions • Answer Key

Q1 Pipes and cistern ENGLISH

Two taps can fill a cistern in 2 hours and 45 hours respectively. A third tap can empty it in 45 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?

A. 3

B. 5

C. 4

D. 2

Q2 Pipes and cistern ENGLISH

Two taps can fill a cistern in 2 hours and 53 hours respectively. A third tap can empty it in 53 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?

A. 2



B. 4

C. 3

D. 5

Q3 Pipes and cistern ENGLISH

Two taps can fill a cistern in 2 hours and 46 hours respectively. A third tap can empty it in 46 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?

A. 2



B. 3

C. 4

D. 5

Q4 Pipes combined ENGLISH

Two taps can fill a cistern in 2 hours and 51 hours respectively. A third tap can empty it in 51 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?

A. 5

B. 2



C. 3

D. 4

Q5 Pipes combined ENGLISH

A pipe can fill a tank in 18 hours. Another pipe can empty the filled tank in 21 hours. If both the pipes are opened simultaneously, then the time (in hours) in which the tank will be filled is:

A. 127

B. 128

C. 126



D. 129

Q6 Taps filling cistern ENGLISH

Two taps can fill a cistern in 2 hours and 54 hours respectively. A third tap can empty it in 54 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?

A. 3

B. 2



C. 5

D. 4

Q7 Taps filling cistern ENGLISH

Two taps can fill a cistern in 2 hours and 47 hours respectively. A third tap can empty it in 47 hours. How long (in hours) will it take to fill the empty cistern, if all of them are opened together?

A. 3

B. 5

C. 4

D. 2



Q8 Pipes combined **ENGLISH**

Two pipes can fill a tank in 34 hours and 94 hours, respectively. The time (in hours) required to fill the tank when both pipes are opened simultaneously is:

A. $\frac{799}{32}$



B. $\frac{796}{30}$

C. $\frac{798}{31}$

D. $\frac{797}{29}$

Q9 Two pipes filling tank **ENGLISH**

Two pipes can fill a tank in 20 hours and 90 hours, respectively. The time (in hours) required to fill the tank when both pipes are opened simultaneously is:

A. $\frac{183}{8}$

B. $\frac{177}{13}$

C. $\frac{179}{9}$

D. $\frac{180}{11}$



Arithmetic

19 Questions • Answer Key

Q1 Average speed

ರಾಧಿಕಾ ಅವರು ತಮ್ಮ ಕಾರಿನಲ್ಲಿ 230 km ದೂರವನ್ನು 46 km/h ವೇಗದಲ್ಲಿ ಕ್ರಮಿಸುತ್ತಾರೆ ಮತ್ತು 400 km ದೂರವನ್ನು 100 km/h ವೇಗದಲ್ಲಿ ಕ್ರಮಿಸುತ್ತಾರೆ. ಹಾಗಾದರೆ ರಾಧಿಕಾ ಅವರ ಪ್ರಯಾಣದ ಸರಾಸರಿ ವೇಗವನ್ನು (km/h ಗಳಲ್ಲಿ) ಕಂಡುಹಿಡಿಯಿರಿ.

A. 70



B. 72

C. 80

D. 75

Q2 Average speed ENGLISH

Shalini travels a distance of 138 km with speed of 46 km/h and 438 km with 73 km/h by her car. Find the average speed (in km/h) of Shalini.

A. 68

B. 70

C. 56

D. 64



Q3 Average speed ENGLISH

If the distance between A and B is 1253 Km. From A, Chaman goes to B with speed 93 km/h and return to A with the speed 95 km/h. Find the average speed of Chaman.(rounded off to two decimal place)

A. 103.98 km/h

B. 93.99 km/h



C. 90.46 km/h

D. 94.47 km/h

Q4 Average speed ENGLISH

Shalini travels a distance of 270 km with speed of 54 km/h and 300 km with 30 km/h by her car. Find the average speed (in km/h) of Shalini.

A. 43

B. 44

C. 38



D. 47

Q5 Average speed ENGLISH

If the distance between A and B is 1089 Km. From A, Vishal goes to B with speed 104 km/h and return to A with the speed 125 km/h. Find the average speed of Vishal.(rounded off to two decimal place)

A. 117.44 km/h

B. 111.79 km/h

C. 120.89 km/h

D. 113.54 km/h



Q6 Average speed ENGLISH

Anamika travels a distance of 183 km with speed of 61 km/h and 225 km with 45 km/h by her car. Find the average speed (in km/h) of Anamika.

A. 56

B. 54

C. 59

D. 51



Q7 Average speed ENGLISH

Himani travels a distance of 352 km with speed of 32 km/h and 330 km with 30 km/h by her car. Find the average speed (in km/h) of Himani.

A. 31



B. 26

C. 21

D. 39

Q8 Average speed ENGLISH

If the distance between A and B is 530 Km. From A, Namit goes to B with speed 37 km/h and return to A with the speed 77 km/h. Find the average speed of Namit.(rounded off to two decimal place)

A. 44.54 km/h

B. 46.51 km/h

C. 44.47 km/h

D. 49.98 km/h



Q9 Boat and stream **ENGLISH**

Find the total time taken by boat to travel upstream and downstream, if the distance travel in each direction (upstream and downstream) is 495km. If speed of boat is 32 km/h and speed of current is 23 km/h.

A. 56 hours

B. 64 hours ☒

C. 72 hours

D. 62 hours

Q10 Boat upstream downstream **ENGLISH**

Find the total time taken by boat to travel upstream and downstream, if the distance travel in each direction (upstream and downstream) is 270km. If speed of boat is 24 km/h and speed of current is 21 km/h.

A. 87 hours

B. 96 hours ☒

C. 106 hours

D. 104 hours

Q11 Half distance two speeds

ಅಕ್ಷತ್ ಅವರು ತಮ್ಮ ಪ್ರಯಾಣವನ್ನು 20 ಗಂಟೆಗಳಲ್ಲಿ ಪೂರ್ಣಗೊಳಿಸುತ್ತಾರೆ. ಅವರು ತಮ್ಮ ಪ್ರಯಾಣದ ಅರ್ಧದಷ್ಟು ದೂರವನ್ನು 57 km/h ವೇಗದಲ್ಲಿ ಕ್ರಮಿಸುತ್ತಾರೆ ಮತ್ತು ಉಳಿದ ದೂರವನ್ನು 95 km/h ವೇಗದಲ್ಲಿ ಕ್ರಮಿಸುತ್ತಾರೆ. ಹಾಗಾದರೆ ಅವರ ಇಡೀ ಪ್ರಯಾಣದ ಒಟ್ಟು ದೂರ (Km ಗಳಲ್ಲಿ) ಎಷ್ಟು?

A. 1435

B. 1423

C. 1416

D. 1425 ☒**Q12 Half distance two speeds** **ENGLISH**

Aman completes his journey in 14 hours. He covers half the distance at 39 km/h and the rest at 45 km/h. What is the length of the journey (in Km)?

A. 592

B. 585 ☒

C. 594

D. 591

Q13 Half distance two speeds **ENGLISH**

Akshat completes his journey in 10 hours. He covers half the distance at 72 km/h and the rest at 36 km/h. What is the length of the journey (in Km)?

A. 471

B. 473

C. 481

D. 480 ☒**Q14 Train crossing** **ENGLISH**

If a 3210 m long train crosses a pole in 107 seconds, then find the time (in seconds) taken by the train to cross a 150 m long platform.

A. 110

B. 106

C. 114

D. 112 ☒**Q15 Train crossing platform** **ENGLISH**

If a 1352 m long train crosses a pole in 169 seconds, then find the time (in seconds) taken by the train to cross a 256 m long platform.

A. 195

B. 201 ☒

C. 193

D. 205

Q16 Walk ride time **ENGLISH**

A man walks to a viewpoint and returns to the starting point by his car maintaining constant speed and thus takes a total time of 6 hours 45 minutes. He would have gained 2 hours by driving both ways. How long would it have taken for him to walk both ways with same walking speed?

A. 9 hours 15 minutes

B. 8 hours 30 minutes

C. 8 hours 45 minutes ☒

D. 7 hours 45 minutes



Q17 Walk ride time ENGLISH

A man walks to a viewpoint and returns to the starting point by his car maintaining constant speed and thus takes a total time of 9 hours 15 minutes. He would have gained 2 hours by driving both ways. How long would it have taken for him to walk both ways with same walking speed?

A. 11 hours 15 minutes



B. 10 hours 15 minutes

C. 11 hours 45 minutes

D. 12 hours 30 minutes

Q18 Walking driving time ENGLISH

A man walks to a viewpoint and returns to the starting point by his car maintaining constant speed and thus takes a total time of 3 hours 15 minutes. He would have gained 3 hours by driving both ways. How long would it have taken for him to walk both ways with same walking speed?

A. 7 hours 30 minutes

B. 6 hours 15 minutes



C. 5 hours 15 minutes

D. 6 hours 45 minutes

Q19 Speed time difference ENGLISH

Ram takes 2 hours more than Ravi to walk 20 km. If Ram doubles his speed, then he is ahead of Ravi by one hour 20 minutes. Find the speed of Ravi (in km/hr).

A. $3\frac{2}{7}$

B. $4\frac{2}{7}$



C. 4

D. 3



Arithmetic

7 Questions • Answer Key

Q1 Age difference ENGLISH

The difference in the age of two people is 24 years. If 6 years ago, the older of the two was four times as old as the younger one, then find their present ages.

- A. 12 and 36 years
- B. 16 and 40 years
- C. 15 and 39 years
- D. 14 and 38 years



Q2 Age problems ENGLISH

The current ages of A and B add up to 36 years. Four years ago, the age of A was three times than that of B. What is the current age of A?

- A. 30 years
- B. 35 years
- C. 20 years
- D. 25 years



Q3 Age problems ENGLISH

Twelve years ago, the age of Reena's mother was three times the age of Reena. Two years hence, the mother's age will be 2 times the age of Reena. Find the ratio of the present ages of Reena and her mother.

- A. 5 : 9
- B. 27 : 13
- C. 13 : 27
- D. 9 : 11



Q4 Age relations puzzle ENGLISH

Among five people named A, B, C, D and E, each has a certain age. C is thrice the age of D. The age of A is 6. D is half the age of E. B is twice the age of A. If E is four times the age of B, what is the age of C?

- A. 75
- B. 70
- C. 76
- D. 72



Q5 Age relations puzzle ENGLISH

Among five people named A, B, C, D and E, each has a certain age. C is twice the age of A. A is three times the age of D. D is one fifth the age of B. The age of B is 45. If E is equal the age of C, what is the age of E?

- A. 58
- B. 54
- C. 56
- D. 52



Q6 Age sum ENGLISH

The sum of the ages of Ram and Ramesh is 48 years. Four years ago the age of Ram was three times the age of Ramesh. What will be the age of Ramesh five years from now?

- A. 21 years
- B. 19 years
- C. 14 years
- D. 18 years



Q7 Ages multiples ENGLISH

Among five people named A, B, C, D and E, each has a certain age. D is four times the age of C. A is two times the age of C. D is five times the age of B. The age of B is 12. If E is thrice the age of A, what is the age of E?

- A. 90
- B. 92
- C. 88
- D. 94



Algebra

7 Questions • Answer Key

Q1 Linear equations word **ENGLISH**

A theater sold 500 tickets to a concert. The tickets for adults cost \$20 each, and the tickets for children cost \$12 each. If the total revenue was \$8,000, how many adult tickets were sold?

A. 300

B. 350

C. 250



D. 200

Q2 Word problem equations **ENGLISH**

A car rental company rents small cars at \$50 per day and large cars at \$80 per day. If a total of 13 cars were rented for \$920 in one day, how many large cars were rented?

A. 9



B. 4

C. 11

D. 6

Q3 Basic Algebra **ENGLISH**

Radha thinks of a number and subtracts $6\frac{3}{5}$ from it. She multiplies the result by 10. Now the result obtained is four times the same number she thought. Find the number.

A. 14

B. 11



C. 13

D. 12

Q4 Equation value **ENGLISH**

If $1 + \frac{3x}{1 + \frac{1}{1 + \frac{x}{1-x}}} = 12$, then find the value of 'x'.

A. 1.4

B. 1.8

C. 1.6



D. 1.2



Q5 Linear equations ENGLISH

Solve the following linear equation.

$$2x - y + z = 8, x + y - z = 10, x + y + 2z = 12$$

A. $x = 6, y = \frac{14}{3}, z = \frac{2}{3}$



B. $x = \frac{-1}{3}, y = 6, z = \frac{14}{3}$

C. $x = -6, y = \frac{-14}{3}, z = \frac{1}{3}$

D. $x = \frac{2}{3}, y = -6, z = \frac{14}{3}$

Q6 Linear equations system ENGLISH

The solution of the system of linear equations is:

$$x + y + z = 6, 2x - y + 3z = 14, -x + 2y - z = -2$$

A. $x = \frac{4}{3}, y = \frac{-4}{3}, z = 5$

B. $x = \frac{-4}{3}, y = \frac{4}{3}, z = 6$



C. $x = \frac{-5}{3}, y = \frac{5}{3}, z = -6$

D. $x = \frac{5}{3}, y = \frac{-5}{3}, z = 6$

Q7 Linear equations system ENGLISH

The solution of the system of the given linear equations is:

$$2x + 3y - z = 5, x - 2y + 4z = -2, 3x + y + 2z = 7$$

A. $x = \frac{-44}{7}, y = \frac{27}{7}, z = -4$

B. $x = \frac{44}{7}, y = \frac{-27}{7}, z = -4$



C. $x = \frac{44}{7}, y = \frac{-27}{7}, z = -8$

D. $x = \frac{-44}{7}, y = \frac{-27}{7}, z = 4$



Algebra

15 Questions • Answer Key

Q1 Algebraic expansion ENGLISH

Write the expanded form of $(6a + 8b + 3c)^2$.

A. $36a^2 + 64b^2 + 9c^2 + 96ab + 48bc + 36ac$ ✓

B. $36a^2 + 64b^2 + 9c^2 + 96ab + 43bc + 36ac$

C. $36a^2 + 64b^2 + 9c^2 + 96ab + 48bc + 46ac$

D. $36a^2 + 64b^2 + 9c^2 + 100ab + 48bc + 36ac$

Q2 Algebraic expansion ENGLISH

Write the expanded form of $(7a + 9b + 4c)^2$.

A. $49a^2 + 81b^2 + 16c^2 + 130ab + 72bc + 56ac$

B. $49a^2 + 81b^2 + 16c^2 + 126ab + 72bc + 56ac$ ✓

C. $49a^2 + 81b^2 + 16c^2 + 126ab + 67bc + 56ac$

D. $49a^2 + 81b^2 + 16c^2 + 126ab + 72bc + 66ac$

Q3 Algebraic expansion ENGLISH

Write the expanded form of $(5a + 6b + 8c)^2$.

A. $25a^2 + 36b^2 + 64c^2 + 64ab + 96bc + 80ac$

B. $25a^2 + 36b^2 + 64c^2 + 60ab + 96bc + 90ac$

C. $25a^2 + 36b^2 + 64c^2 + 60ab + 91bc + 80ac$

D. $25a^2 + 36b^2 + 64c^2 + 60ab + 96bc + 80ac$ ✓

Q4 Expansion of trinomial square

 $(8a + 3b + 9c)^2$ ನ ವಿಸ್ತರಿಸಿದ ರೂಪವನ್ನು ಬರೆಯಿರಿ.

A. $64a^2 + 9b^2 + 81c^2 + 48ab + 54bc + 144ac$ ✓

B. $64a^2 + 9b^2 + 81c^2 + 48ab + 49bc + 144ac$

C. $64a^2 + 9b^2 + 81c^2 + 52ab + 54bc + 144ac$

D. $64a^2 + 9b^2 + 81c^2 + 48ab + 54bc + 154ac$

Q5 Expansion of trinomial square

 $(9a + 4b + 5c)^2$ ನ ವಿಸ್ತರಿಸಿದ ರೂಪವನ್ನು ಬರೆಯಿರಿ.

A. $81a^2 + 16b^2 + 25c^2 + 72ab + 35bc + 90ac$

B. $81a^2 + 16b^2 + 25c^2 + 72ab + 40bc + 90ac$ ✓

C. $81a^2 + 16b^2 + 25c^2 + 76ab + 40bc + 90ac$

D. $81a^2 + 16b^2 + 25c^2 + 72ab + 40bc + 100ac$

Q6 Expansion of trinomial square

 $(4a + 9b + 5c)^2$ ನ ವಿಸ್ತರಿಸಿದ ರೂಪವನ್ನು ಬರೆಯಿರಿ.

A. $16a^2 + 81b^2 + 25c^2 + 76ab + 90bc + 40ac$

B. $16a^2 + 81b^2 + 25c^2 + 72ab + 90bc + 40ac$ ✓

C. $16a^2 + 81b^2 + 25c^2 + 72ab + 90bc + 50ac$

D. $16a^2 + 81b^2 + 25c^2 + 72ab + 85bc + 40ac$

Q7 Expansion of trinomial square ENGLISH

Write the expanded form of $(6a + 5b + 8c)^2$.

A. $36a^2 + 25b^2 + 64c^2 + 64ab + 80bc + 96ac$

B. $36a^2 + 25b^2 + 64c^2 + 60ab + 80bc + 106ac$

C. $36a^2 + 25b^2 + 64c^2 + 60ab + 80bc + 96ac$ ✓

D. $36a^2 + 25b^2 + 64c^2 + 60ab + 75bc + 96ac$

Q8 Expansion of trinomial square ENGLISH

Write the expanded form of $(5a + 7b + 3c)^2$.

A. $25a^2 + 49b^2 + 9c^2 + 70ab + 42bc + 30ac$ ✓

B. $25a^2 + 49b^2 + 9c^2 + 74ab + 42bc + 30ac$

C. $25a^2 + 49b^2 + 9c^2 + 70ab + 37bc + 30ac$

D. $25a^2 + 49b^2 + 9c^2 + 70ab + 42bc + 40ac$



Q9 Expansion of trinomial square **ENGLISH**

Write the expanded form of $(8a + 5b + 9c)^2$.

- A. $64a^2 + 25b^2 + 81c^2 + 80ab + 85bc + 144ac$
- B. $64a^2 + 25b^2 + 81c^2 + 80ab + 90bc + 154ac$
- C. $64a^2 + 25b^2 + 81c^2 + 84ab + 90bc + 144ac$
- D. $64a^2 + 25b^2 + 81c^2 + 80ab + 90bc + 144ac$ ✓

Q10 Expansion of trinomial square **ENGLISH**

Write the expanded form of $(3a + 5b + 7c)^2$.

- A. $9a^2 + 25b^2 + 49c^2 + 34ab + 70bc + 42ac$
- B. $9a^2 + 25b^2 + 49c^2 + 30ab + 70bc + 42ac$ ✓
- C. $9a^2 + 25b^2 + 49c^2 + 30ab + 70bc + 52ac$
- D. $9a^2 + 25b^2 + 49c^2 + 30ab + 65bc + 42ac$

Q11 Expansion of trinomial square **ENGLISH**

Write the expanded form of $(4a + 6b + 9c)^2$.

- A. $16a^2 + 36b^2 + 81c^2 + 48ab + 108bc + 72ac$ ✓
- B. $16a^2 + 36b^2 + 81c^2 + 52ab + 108bc + 72ac$
- C. $16a^2 + 36b^2 + 81c^2 + 48ab + 103bc + 72ac$
- D. $16a^2 + 36b^2 + 81c^2 + 48ab + 108bc + 82ac$

Q12 Expansion of trinomial square **ENGLISH**

Write the expanded form of $(3a + 6b + 5c)^2$.

- A. $9a^2 + 36b^2 + 25c^2 + 36ab + 55bc + 30ac$
- B. $9a^2 + 36b^2 + 25c^2 + 36ab + 60bc + 40ac$
- C. $9a^2 + 36b^2 + 25c^2 + 40ab + 60bc + 30ac$
- D. $9a^2 + 36b^2 + 25c^2 + 36ab + 60bc + 30ac$ ✓

Q13 Trinomial expansion **ENGLISH**

Write the expanded form of $(5a + 4b + 9c)^2$.

- A. $25a^2 + 16b^2 + 81c^2 + 40ab + 72bc + 90ac$ ✓
- B. $25a^2 + 16b^2 + 81c^2 + 40ab + 72bc + 100ac$
- C. $25a^2 + 16b^2 + 81c^2 + 44ab + 72bc + 90ac$
- D. $25a^2 + 16b^2 + 81c^2 + 40ab + 67bc + 90ac$

Q14 Trinomial expansion **ENGLISH**

Write the expanded form of $(6a + 2b + 7c)^2$.

- A. $36a^2 + 4b^2 + 49c^2 + 28ab + 28bc + 84ac$
- B. $36a^2 + 4b^2 + 49c^2 + 24ab + 28bc + 94ac$
- C. $36a^2 + 4b^2 + 49c^2 + 24ab + 23bc + 84ac$
- D. $36a^2 + 4b^2 + 49c^2 + 24ab + 28bc + 84ac$ ✓

Q15 Trinomial expansion **ENGLISH**

Write the expanded form of $(9a + 6b + 4c)^2$.

- A. $81a^2 + 36b^2 + 16c^2 + 108ab + 48bc + 72ac$ ✓
- B. $81a^2 + 36b^2 + 16c^2 + 108ab + 43bc + 72ac$
- C. $81a^2 + 36b^2 + 16c^2 + 112ab + 48bc + 72ac$
- D. $81a^2 + 36b^2 + 16c^2 + 108ab + 48bc + 82ac$



Q1 Laws of indices ENGLISH

$\frac{(a^{10} \times b^3 \times c^9)}{(a^9 \times b^6 \times c^9)}$ in simplified form is:

A. $(a^{-1}) \times (b^{-9}) \times (c^{-8})$

B. $(a^{-1}) \times (b^{-3}) \times (c^{-10})$

C. $(a^1) \times (b^{-3}) \times (c^0)$



D. $(a^1) \times (b^{-9}) \times (c^{-7})$



Algebra

13 Questions • Answer Key

Q1 BODMAS ENGLISHEvaluate: $32 \div 12 \times 3 - 3 \times 4$

A. -5

B. -2

C. -4



D. -1

Q2 BODMAS ENGLISHEvaluate: $16 + 16 \div 4 - 3 \times 4$

A. 11

B. 8



C. 7

D. 10

Q3 BODMAS ENGLISHEvaluate: $32 \div 12 \times 3 - 2 \times 4$

A. 2

B. 3

C. -1

D. 0

Q4 BODMAS ENGLISHEvaluate: $33 \div 9 \times 3 - 2 \times 4$

A. 6

B. 3



C. 5

D. 2

Q5 BODMAS ENGLISHEvaluate: $33 \div 9 \times 3 - 2 \times 3$

A. 4

B. 7

C. 8

D. 5



Q6 Squares and BODMAS

16 + 16 ÷ 4 - 3 × 3 ಇದರ ಮೌಲ್ಯ ಕಂಡುಹಿಡಿಯಿರಿ.

A. 10

B. 13

C. 14

D. 11

Q7 Squares and BODMAS ENGLISHEvaluate 184^2

A. 33856



B. 33866

C. 33806

D. 33836

Q8 Squares and BODMAS ENGLISHEvaluate: $16 + 18 \div 6 - 2 \times 3$

A. 12

B. 15

C. 13



D. 16

Q9 Squares and BODMAS ENGLISHEvaluate: $16 + 18 \div 3 - 3 \times 3$

A. 12

B. 13



C. 15

D. 16



Q10 Decimal simplification ENGLISH

Express the value of $35.63 - 47.058 + 10.36 - 24.28 + 5.316 \times 5$ as a vulgar fraction.

A. $1\frac{29}{125}$



B. $2\frac{13}{58}$

C. $1\frac{31}{48}$

D. $1\frac{21}{47}$

Q11 Decimal simplification ENGLISH

Find the value of $2.5 \times 4 + 3.68 \div 4 - 8.46 \times 2 + 7.365 \times 4 + 2.8 \times 3 - 1.675 \times 2$.

A. 28.51



B. 27.21

C. 27.98

D. 28.96

Q12 Decimal simplification ENGLISH

Find the value of $8.25 \times 6 - 3.14 \times 7 + 2.758$ of $2.5 - 4.365 \times 5$.

A. 11.05

B. 12.59



C. 12.97

D. 11.82

Q13 Decimal simplification ENGLISH

Find the value of $1.356 + 4.25 \times 8 - 3.562 \times 6 + 7.5 \times 4$.

A. 43.012

B. 42.237

C. 41.625

D. 43.984



Geometry

4 Questions • Answer Key

Q1 Supplementary angles ENGLISH

The larger of two supplementary angles is 22° more than the smaller. The smaller angle (in degree) is:

A. 86

B. 88

C. 79



D. 84

Q2 Angle in figure ENGLISH

Let O be the incentre of a triangle PQR and S be a point on the side QR such that $OS \perp QR$. If $\angle QOS = 15^\circ$, then $\angle PQR = ?$

A. 75° B. 130° C. 150° D. 65° Q3 Angle in figure ENGLISH

If two parallel lines are cut by a transversal, and one pair of the corresponding angles formed are $(x + 30)^\circ$ and $(2x - 10)^\circ$, then find the value of x.

A. 35

B. 45

C. 40



D. 30

Q4 Angle in figure ENGLISH

AB and CD are parallel straight lines and HI is the transversal intersecting AB at E and CD at F. G is a point between the lines AB and CD but not on HI, such that $m\angle EGF = 65^\circ$. If $\frac{2}{5} \times m\angle BEG = \frac{3}{5} \times m\angle DFG$, and $m\angle DFG = \frac{1}{3} \times m\angle DFE$, what is the measure of $\angle FEG$?

A. 63° B. 52° C. 62° D. 69° 

Geometry

5 Questions • Answer Key

Q1 Figure geometry ENGLISH

[Question text / figure not saved in the source paper record. Options and official answer as released.]

A. 20



B. 12

C. 10

D. 8

Q2 Similar triangle shadow ENGLISH

A vertical stick 11 m long casts a shadow 7 m long on the ground. At the same time, a tower casts a shadow of 35 m long on the ground. The height of the tower is:

A. 52 m

B. 55 m



C. 50 m

D. 60 m

Q3 Similar triangle areas ENGLISH

The ratio of the lengths of two corresponding sides of two similar triangles is 17 : 13. The ratio of the areas of these two triangles, in the order mentioned, is:

A. 290 : 170

B. 289 : 169

C. $17\sqrt{17} : 13$

D. 17 : 13

Q4 Similar triangles area ENGLISH

In $\triangle ABC$, $DE \parallel AC$, where D and E are the points on sides AB and BC, respectively.

If $BD = 8$ cm and $AD = 7$ cm, then what is the ratio of the area of $\triangle BDE$ to the trapezium ADEC?

A. 65:162

B. 64:161



C. 162:65

D. 161:64

Q5 Triangles ENGLISH

In $\triangle PQR$ and $\triangle XYZ$, $PQ = 5$ cm, $QR = 6$ cm, $PR = 7$ cm, $XY = 5$ cm, $YZ = 6$ cm and $XZ = 7$ cm. Then which of the following is true?

A. $\triangle PRQ \cong \triangle XYZ$ B. $\triangle PQR \cong \triangle YXZ$ C. $\triangle QPR \cong \triangle XYZ$ D. $\triangle PQR \cong \triangle XYZ$ 

Geometry

4 Questions • Answer Key

Q1 Common tangent ENGLISH

The centres of two circles with radii 28 cm and 20 cm are 50 cm apart. What is the length (in cm) of the transverse common tangent?

A. 16

B. 15

C. 14



D. 13

Q2 Tangent secant length ENGLISH

PN is a secant intersecting a circle at points M and N such that $PN > PM$. A tangent PT is drawn to the circle touching it at T. If $PM = 32$ cm and $PT = 40$ cm, what is the length (in cm) of the chord MN?

A. 20

B. 36

C. 50

D. 18



Q3 Circles ENGLISH

The diameters of two concentric circles are 34 cm and 50 cm. A straight line, CAPF, intersects the larger circle at points C and F and intersects the smaller circle at points A and P. If $AP = 16$ cm, find the length of CF.

A. 40 cm



B. 50 cm

C. 30 cm

D. 34 cm

Q4 Circles ENGLISH

AC is a chord of a circle. If X and Y are the two points, on the circumference of the circle, lying on the same side of the chord AC such that $\angle AXC = 58^\circ$, then what is the measure of $2\angle AYC$?

A. 116° B. 120° C. 58° D. 60° 

Q1 Quadrilaterals

ಒಂದು ವೇಳೆ ಒಂದು ಚತುರ್ಭುಜದ ಮೂರು ಕೋನಗಳು 70° , 85° ಮತ್ತು 95° ಆಗಿದ್ದರೆ, ನಾಲ್ಕನೇ ಕೋನವನ್ನು ಕಂಡುಹಿಡಿಯಿರಿ.

A. 105° B. 100° C. 115° D. 110° ✓

Q2 Quadrilaterals ENGLISH

If the ratio of four angles of a quadrilateral is $\angle A : \angle B : \angle C : \angle D :: 2 : 3 : 5 : 8$, what is the value of $\angle B$?

A. 60° ✓B. 90° C. 40° D. 50° 

Q1 Regular polygon ENGLISH

Which of the following is NOT a property of a regular polygon?

- A. All sides are of equal length.
- B. Angles at the centre by all sides are equal.
- C. The angle made by each side at the centre is 90° , if it is a regular polygon with four sides.
- D. The angle made by each side at the centre is 60° , if it is a regular polygon with eight sides. ☒



Mensuration

5 Questions • Answer Key

Q1 Isosceles triangle area ENGLISH

The length of each of the two equal sides of an isosceles triangle is 100 cm each and the length of its base is 56 cm. The area (in cm^2) of the triangle is:

A. 2672

B. 2690

C. 2688 ✓

D. 2675

Q2 Isosceles triangle area ENGLISH

The length of each of the two equal sides of an isosceles triangle is 89 cm each and the length of its base is 78 cm. The area (in cm^2) of the triangle is:

A. 3139

B. 3134

C. 3102

D. 3120 ✓

Q5 Sector perimeter ENGLISH

What is the perimeter of a sector of a circle (in cm) if the radius of the circle is 10.5 cm and the angle subtended at the centre of the circle is 60° ?

(Use $\pi = \frac{22}{7}$)

A. 41

B. 37

C. 43

D. 32 ✓

Q3 Square plot area

ಚೌಕಾಕಾರದ ಒಂದು ನಿವೇಶನದ ವಿಸ್ತೀರ್ಣವು 289 m^2 ಆಗಿದೆ. ಹಾಗಾದರೆ ಆ ನಿವೇಶನದ ಪ್ರತಿ ಬದಿಯ (side) ಉದ್ದವು (m ಗಳಲ್ಲಿ):

A. 17 ✓

B. 27

C. 11

D. 7

Q4 Trapezium area ENGLISH

If the area of a trapezium is 80 cm^2 and the parallel sides are 13.5 and 6.5 cm, then the distance between them (in cm) is ____.

A. 12

B. 8 ✓

C. 9

D. 10



Mensuration

9 Questions • Answer Key

Q1 Cone volume ENGLISH

The radius of the base of a right circular cone is 21 m and its curved surface area is 1914 m^2 . Find the volume (in m^3) of the cone.

A. 10250

B. 9240 ☒

C. 9549

D. 8549

Q2 Cube surface area ENGLISH

A cube of side 5 cm is cut into smaller cubes of side 1 cm. What is the ratio of the total surface area of the larger cube and the sum of the total surfaces of all the smaller cubes?

A. 1 : 5 ☒

B. 2 : 3

C. 1 : 3

D. 2 : 5

Q3 Cuboid volume cost ENGLISH

Find the cost (in ₹) of digging a cuboidal pit 9 m long, 5 m broad and 4 m deep at the rate of ₹20 per m^3 .

A. 3,900

B. 3,800

C. 3,700

D. 3,600 ☒

Q4 3D Mensuration

A conical tent has to accommodate 30 persons. Each person must have 5 m^2 spaces on the ground and 120 m^3 of air to breathe. Find the height (in m) of the tent.

A. 72 ☒

B. 60

C. 64

D. 84

Q5 3D Mensuration ENGLISH

If the radius of a hemisphere is increased by 50%, then find the percentage increase in the volume. (Take $\pi = \frac{22}{7}$)

A. 137.5%

B. 125% ☒

C. 150%

D. 112.5%



Q6 3D Mensuration ENGLISH

The curved surface area of a cone is 5544 cm^2 , and the diameter is 168 cm. What is its total surface area (in cm^2)? (Use $\pi = \frac{22}{7}$)

A. 25,530

B. 27,720

C. 27,270

D. 23,550



Q7 Cylinder curved surface ENGLISH

A cylindrical rod has an outer curved surface area of 4500 cm^2 . If the length of the rod is 39 cm, then the outer radius (in cm) of the rod, correct to two places of decimal, is: $\text{Take } \pi = \frac{22}{7}$

A. 20.48

B. 20.93

C. 18.36

D. 18.25



Q8 Hemisphere surface area ENGLISH

The total surface area of a solid hemisphere is 191 cm^2 . Its radius (in cm) is: $\text{Take } \pi = \frac{22}{7}$

A. $\sqrt{\frac{1347}{66}}$

B. $\sqrt{\frac{1347}{132}}$

C. $\sqrt{\frac{1337}{66}}$

D. $\sqrt{\frac{1345}{66}}$



Q9 Wire volume ENGLISH

The volume (in cm^3) of a wire of diameter 56 cm and length 3 m is:

$\text{take } \pi = \frac{22}{7}$

A. 740200

B. 739700

C. 739200

D. 739400



Trigonometry

6 Questions • Answer Key

Q1 Trig expression simplify ENGLISH

Simplify the given expression.

$$(\sin A + \operatorname{cosec} A)^2 + (\cos A - \sec A)^2 + 3$$

A. $1 + \tan^2 A + \cot^2 A$

B. $6 + \tan^2 A + \cot^2 A$ ✓

C. $3 + \tan^2 A + \cot^2 A$

D. $\tan^2 A + \cot^2 A$

Q2 Trig identity ENGLISH

Find the value of $\sin^2 63^\circ + \sin^2 27^\circ + \cos^2 17^\circ + \cos^2 73^\circ + \cos^2 90^\circ$.

A. 0

B. 2 ✓

C. -1

D. 1

Q3 Trig identity ENGLISH

Simplify the given expression.

$$(1 + \cos A)(\operatorname{cosec} A - \cot A)$$

A. $\tan A$

B. $\operatorname{cosec} A$

C. $\sec A$

D. $\sin A$ ✓

Q4 Trigonometric identity

(1 + sinA)(1 - sinA)(1 + tan²A) ಇದು ಈ ಕೆಳಗಿನ ಯಾವುದಕ್ಕೆ ಸಮನಾಗಿದೆ?

A. $\cos A$

B. 0

C. 1 ✓

D. $\tan A$

Q5 Figure based trigonometry ENGLISH

Find the value of $\frac{\cos 35^\circ}{\sin 55^\circ} - \frac{\sin 11^\circ}{\cos 79^\circ} + \cos 28^\circ \operatorname{cosec} 62^\circ + \cos 0^\circ$.

A. 0

B. 2 ✓

C. 1

D. -1

Q6 Figure based trigonometry ENGLISH

If $\sin \theta = \frac{12}{13}$, then what is the value of $26 \sin \theta - 10 \sec \theta$?

A. 0

B. 1

C. 2

D. -2 ✓



Trigonometry

2 Questions • Answer Key

Q1 Height distance ENGLISH

What is the difference between the hypotenuse and the base of an isosceles right triangle that has an area of 392 m^2 (use $\sqrt{2} = 1.4$)?

A. 12.4 m

B. 11.2 m



C. 11.9 m

D. 10.9 m

Q2 Height distance ENGLISH

The angle of elevation of a tower from a point which is at a distance of 44 m from its foot is 60° . Find the height of the tower. (use $\sqrt{3} = 1.73$)

A. 48 m

B. 56.37 m

C. 68 m

D. 76.12 m



Number System

6 Questions • Answer Key

Q1 HCF LCM problems ENGLISH

What is the smallest 4-digit number which, when divided by 12, 16, and 20, gives a remainder of 9?

A. 1049

B. 1209



C. 1017

D. 1217

Q2 HCF LCM problems ENGLISH

The ratio between HCF and LCM of two numbers 62 and 217 is 1 : 14. Find the LCM.

A. 402

B. 439

C. 434



D. 430

Q3 HCF LCM problems ENGLISH

The sirens of three companies sound together initially and then continue to sound at intervals of 12 minutes, 16 minutes, and 20 minutes, respectively. Over a period of 16 hours and 12 minutes from the time they first sound together, how many times will they sound simultaneously?

A. 3 times

B. 4 times

C. 6 times

D. 5 times



Q4 HCF LCM problems ENGLISH

The greatest common divisor (GCD) and least common multiple (LCM) of two numbers are 12 and 480, respectively, and the numbers are in the ratio of 5 : 8. Find the difference between the two numbers.

A. 36



B. 12

C. 42

D. 24

Q5 HCF LCM problems ENGLISH

A milk man has 80 litres milk in one container and 68 litres milk in another container. Find the maximum capacity of a container, which can measure milk of either container exact number of times.

A. 2 litres

B. 4 litres



C. 6 litres

D. 5 litres

Q6 Perfect square LCM ENGLISH

If 'M' is the smallest perfect square number, which is exactly divisible by 12, 15 and 18, then find the sum of the digits of the quotient obtained, when M is divided by 25.

A. 9



B. 7

C. 8

D. 6



Number System

8 Questions • Answer Key

Q1 Divisibility by 11 ENGLISH

Find the value of $K^2 - 3K$, for which the number 58K764 is divisible by 11.

- A. 48
- B. 60
- C. 52
- D. 40

Q2 Divisibility by 3 ENGLISH

When 268 is added to 6K8, the result is 9P6. What is the least possible value of K and P for which 9P6 is divisible by 3?

- A. K=4; P=6
- B. K=6; P=9
- C. K=0; P=3
- D. K=3; P=0

Q3 Divisibility rule ENGLISH

A six-digit number is divisible by 91. If 143 is added to this number, the resulting number is divisible by which of the following number?

- A. 7
- B. 13
- C. 11
- D. 91

Q4 HCF ENGLISH

Find the HCF of 84, 126 and 210.

- A. 70
- B. 14
- C. 21
- D. 42

Q5 HCF of lengths ENGLISH

Two pieces of cloth measure 96 metres and 144 metres in length. What is the maximum length of cloth that can be cut equally from both pieces without any remainder?

- A. 96 metres
- B. 12 metres
- C. 24 metres
- D. 48 metres

Q6 LCM HCF ENGLISH

The LCM of two numbers is seven times of their HCF. If the product of two numbers is 448, then find the difference between LCM and HCF.

- A. 48
- B. 30
- C. 54
- D. 42

Q7 LCM bells ENGLISH

Five bells toll together initially and then continue to toll at time intervals of 4, 8, 12, 16 and 20 seconds respectively. If they start tolling simultaneously at 12:00 p.m., then find how many times they will toll together between 12:00 p.m. to 3:00 p.m.

- A. 54
- B. 42
- C. 62
- D. 46

Q8 LCM multiples ENGLISH

What is the sum of the numbers between 250 and 450, such that when it is divided by 8, 12 and 18, it leaves no remainder?

- A. 1008
- B. 936
- C. 1152
- D. 1080



Number System

2 Questions • Answer Key

Q1 Digit change problem ENGLISH

If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 4835176, what will be the sum of the digits which are second from the left and second from the right?

A. 10

B. 12

C. 14



D. 11

Q2 Digit modification ENGLISH

If 2 is added to each odd digit and 1 is subtracted from each even digit in the number 2687531, then how many digits will appear more than once in the new number thus formed?

A. Four

B. Three

C. Two



D. One



Statistics

18 Questions • Answer Key

Q1 Mean of data ENGLISH

The numbers of children in 10 families of a locality are 2, 1, 3, 4, 2, 3, 5, 1, 1, 3.

The number of children per family is:

A. 2.8

B. 2.5 ✓

C. 3

D. 2.4

Q2 Median ENGLISH

The median of 7, 18, 22, 12, 14, 7, 23, 16 and 3 is:

A. 18

B. 14 ✓

C. 22

D. 7

Q3 Median ENGLISH

What is the median of the following data?

17, 54, 51, 64, 13, 39, 23, 40, 78, 66, 96

A. 52

B. 51 ✓

C. 51.5

D. 50.5

Q4 Median ENGLISH

What is the median of the following data?

78, 33, 59, 56, 61, 36, 48, 42, 97, 57, 62

A. 57.5

B. 58

C. 56.5

D. 57 ✓

Q5 Median ENGLISH

The age of some students is given in years as 22, 23, 26, 28, 24, 29, 23, 27, 25 and 21. The median age (in years) of the students is:

A. 23.5

B. 24

C. 24.5 ✓

D. 25

Q6 Median of data ENGLISH

Find the median of the data given below.

180, 90, 134, 68, 52, 152, 88, 110

A. 100 ✓

B. 89

C. 60

D. 110

Q7 Median of data ENGLISH

What is the median of the following data?

50, 48, 40, 73, 29, 14, 89, 14, 51, 76, 78

A. 51

B. 49.5

C. 50 ✓

D. 50.5

Q8 Mode ENGLISH

The marks scored by 10 students are given below.

18, 13, 14, 18, 14, 17, 15, 11, 13, 18

The mode of the data is:

A. 14

B. 11

C. 18 ✓

D. 13



Q9 Mode of data ENGLISH

The marks scored by 10 students are given below.

17, 16, 12, 16, 15, 16, 13, 14, 13, 20

The mode of the data is:

A. 17

B. 16



C. 12

D. 18

Q10 Mode of data ENGLISH

The marks scored by 10 students are given below.

14, 15, 16, 17, 10, 17, 19, 13, 14, 14

The mode of the data is:

A. 17

B. 15

C. 14



D. 16

Q11 Mean grouped data ENGLISH

Find the arithmetic mean of the following data (correct to two places of decimals).

Class-interval	5-15	15-25	25-35	35-45	45-55	55-65
Frequency	12	18	8	14	16	8

A. 22.38

B. 33.68



C. 43.72

D. 39.45

Q12 Mean median mode ENGLISH

If the mean of the following data is 37, then the value of X is:

x_i	20	30	40	85
f_i	19	X	13	24

A. 106

B. 107

C. 124



D. 125



Q13 Mean median mode ENGLISH

The mean marks of the following distribution is:

Marks Obtained	No. of Students
83	9
73	5
20	18
82	16

A. 50

B. 57

C. 58



D. 78

Q14 Mean median mode ENGLISH

If the mean of the following data is 40, then the value of X is:

xi	10	25	70	85
fi	21	X	22	35

A. 107



B. 120

C. 134

D. 112

Q15 Mean median mode ENGLISH

What is the mean of the following distribution?

Marks	13	23	51	61	96
No. of Students	51	34	62	87	17

A. 46



B. 37

C. 34

D. 72



Q16 Mean median mode ENGLISH

If the mean of the following data is 61, then the value of X is:

xi	55	60	70	95
fi	48	X	31	23

A. 790

B. 799

C. 796

D. 773



Q17 Mean median mode ENGLISH

The mean marks of the following distribution is:

Marks Obtained	No. of Students
28	8
12	12
57	18
85	13

A. 43

B. 53

C. 39

D. 49



Q18 Mean median mode ENGLISH

Find the mean of the following frequency distribution.

x	5	6	15	9	8
f	10	5	8	10	9

A. $9\frac{13}{21}$

B. $8\frac{13}{21}$



C. $7\frac{13}{21}$

D. $6\frac{13}{21}$

