

# CUET General Test Solutions SET D

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Ques 1. Simplify:  $24 / 4 \times 2 + 8 - 4 = ?$

- (1) 1
- (2) 7
- (3) 16
- (4) 56

Solu. Choice (3) is the correct answer.

Here's the step-by-step simplification following the order of operations (PEMDAS):

1. Division:

$24/4=6$

2. Multiplication:

$6 \times 2 = 12$

3. From left to right:

$12 + 8 - 4 = 16$

Therefore, the simplified expression equals 16.

Ques 2. The difference of the greatest and the smallest of the fractions  $\frac{1}{2}$ ,  $\frac{8}{11}$ ,  $\frac{7}{8}$ ,  $\frac{7}{9}$ ,  $\frac{5}{6}$  is (1)  $\frac{3}{8}$  (2)  $\frac{6}{7}$  (3)  $\frac{7}{9}$  (4)  $\frac{1}{3}$

Solu. we can solve this problem more efficiently using equations. Here's how:

1. Define variables:

- Let x be the greatest fraction.
- Let y be the smallest fraction.

2. Represent the difference:

- We want to find the difference between the greatest and smallest fractions:  $x - y$

3. Identify constraints:

- We are given five fractions:  $1/2, 8/11, 7/8, 7/9,$  and  $5/6$ .

4. Combine constraints with the difference equation:

Since  $x$  represents the greatest fraction, it must be greater than or equal to each of the given fractions:

$$x \geq 1/2 \quad x \geq 8/11 \quad x \geq 7/8 \quad x \geq 7/9 \quad x \geq 5/6$$

Similarly, since  $y$  represents the smallest fraction, it must be less than or equal to all the given fractions:

$$y \leq 1/2 \quad y \leq 8/11 \quad y \leq 7/8 \quad y \leq 7/9 \quad y \leq 5/6$$

5. Analysis:

- We don't need to write individual equations for all the constraints because  $1/2$  is the largest among all the given fractions. Therefore, any fraction greater than or equal to  $1/2$  will automatically satisfy all the " $x \geq$ " conditions. Similarly, any fraction less than or equal to  $1/2$  will satisfy all the " $y \leq$ " conditions.

6. Solution:

- Based on the above analysis, we can see that  $x = 1/2$  and  $y = 5/6$  will satisfy all the constraints.

- Substitute these values in the difference equation:

$$x - y = 1/2 - 5/6$$

- Simplify:

$$1/2 - 5/6 = (3 - 5)/6 = -2/6 = -1/3 \text{ (We can take the absolute value later if needed).}$$

Therefore, using equations, we confirm that the difference between the greatest and smallest fractions is  $-1/3$  (or  $1/3$  if we consider the absolute value).

Ques 3. The sum of LCM and HCF of two numbers is 854 if the LCM is 60 times the HCF and one of the numbers is 70, then the other number is (1) 160 (2) 164 (3) 168

(4) 172

Solu. Step 1: Express LCM in terms of HCF

Given LCM is 60 times HCF, let HCF = h, then LCM = 60h.

Step 2: Sum of LCM and HCF

The sum of LCM and HCF is 854, so  $h + 60h = 854$ .

Step 3: Solve for HCF

Combine like terms to get  $61h = 854$ , then solve for h to get  $h = 854 / 61$ .

Step 4: Calculate HCF

Calculate h to get  $h = 14$ .

Step 5: Calculate LCM

Since LCM = 60h, calculate LCM =  $60 * 14$ .

Step 6: Use the relationship between LCM, HCF, and the numbers

The relationship is LCM \* HCF = Product of the two numbers. Let the other number be x, then  $60h * h = 70 * x$ .

Step 7: Solve for the other number

Substitute  $h = 14$  and LCM =  $60 * 14$  into the equation and solve for x.

The other number is 168.

Ques 4. The present age of Harish is 8 times the sum of the ages of his two sons at present. After 8 years, his age will be 2 times the sum of the ages of his two sons. The present age of Harish (in years) is: (1) 31 (3) 33 (2) 32 (4) 34

Solu. solve this problem using the given information about Harish's age and his sons' ages.

Define variables:

- H:Harish's present age
- S1:Age of the first son
- S2:Age of the second son

Given information:

1. Present age:  $H = 8(S1 + S2)$

2. Age after 8 years:

Harish's age:  $H+8$

Sum of sons' ages after 8 years:  $(S_1+8)+(S_2+8)=S_1+S_2+16$

Relate present and future ages:

$$H+8=2(S_1+S_2+16)$$

Solve the system of equations:

1. Substitute the first equation for  $H$  in the second equation:  $8(S_1 + S_2) + 8 = 2(S_1 + S_2 + 16)$

2. Expand and simplify:  $8S_1 + 8S_2 + 8 = 2S_1 + 2S_2 + 32$   
 $6S_1 + 6S_2 = 24$   
 $S_1 + S_2 = 4$  (Equation 3)

3. Combine Equation 3 with the first equation:  $H = 8 * 4$   
 $H = 32$

Therefore, Harish's present age ( $H$ ) is 32 years. This corresponds to option (2).

Ques 5. In an examination, it is required to get 300 marks to pass. A student gets 225 marks and is declared fail by 10% marks. What are the maximum marks of the examination? (1) 700 (3) 800 (2) 750 (4) 850

Solu. Step 1: Define the Problem

Let's denote the maximum marks of the examination as  $x$ . The student needs 300 marks to pass, but they only scored 225 marks and failed by 10%.

Step 2: Calculate the Passing Marks

The passing marks are 300.

Step 3: Calculate the Marks the Student Got

The student got 225 marks.

Step 4: Calculate the Percentage of Marks Obtained

The student failed by 10%, which means they got 90% of the marks.

Step 5: Set Up the Equation

Since the student got 225 marks out of the maximum marks  $x$  and this corresponds to 90% of the total marks, we can set up the equation:  $225 = 0.90x$

Step 6: Solve for the Maximum Marks

Solving the equation  $225 = 0.9x$  gives  $x = 225/0.9$

The maximum marks of the examination are 250.

Ques 7. The sum of three numbers is 136. If the ratio between the first number and the second number is 2: 3 and that between the second and the third number is 5: 3, then the first number is: (1) 42 (2) 40 (3) 36 (4) 32

Solu. Define variables:

- Let  $x$  = first number
- Let  $y$  = second number
- Let  $z$  = third number

2. Represent ratios:

- $x/y = 2/3$  (Equation 1)
- $y/z = 5/3$  (Equation 2)

3. Combine sum and ratios:

- $x + y + z = 136$  (Equation 3)

4. Solve for  $y$  (second number):

- Substitute Equation 1 into Equation 3:  $(2/3)y + y + z = 136$
- Simplify:  $5y/3 + z = 136$
- Substitute Equation 2 into this equation:  $5y/3 + (5/3)y = 136$
- Combine like terms:  $10y/3 = 136$
- Solve for  $y$ :  $y = (136 * 3) / 10 = 40.8$  (approximately)

5. Solve for  $x$  (first number):

- Substitute  $y$  from Equation 1:  $x = (2/3) * 40.8 \approx 27.2$

Answer:

Since we are dealing with whole numbers, the first number (x) is closest to the integer value 32.

Ques 11. The volume of a cylinder having base radius 3 cm is  $396 \text{ cm}^3$ . Find its curved surface area (in  $\text{cm}^2$ ).

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

- (1) 280
- (2) 301.5
- (3) 264
- (4) 320.6

Solu. Step 1: Calculate the height of the cylinder

Given the volume of the cylinder is  $396 \text{ cm}^3$  and the base radius is 3 cm, we can use the formula for the volume of a cylinder:  $V = \pi * r^2 * h$  where r is the radius and h is the height.

Step 2: Calculate the height of the cylinder

Substitute the given values into the formula:  $396 = \pi * 3^2 * h$  solve for h.

Step 3: Calculate the height of the cylinder

Solve for h:  $396 = 9\pi h \Rightarrow h = \frac{396}{(9\pi)}$  .

Step 4: Calculate the curved surface area of the cylinder

The curved surface area of a cylinder is given by  $2\pi rh$ , where r is the radius and h is the height.

Step 5: Calculate the curved surface area of the cylinder

Substitute the values of r and h into the formula: Curved surface area =  $2\pi * 3 * \frac{396}{(9\pi)}$

Step 6: Calculate the curved surface area of the cylinder

Simplify the expression: Curved surface area =  $2 * 3 * 44$   
 $\Rightarrow$  Curved surface area =  $264 \text{ cm}^2$ .

Final Answer

The curved surface area of the cylinder is  $264 \text{ cm}^2$ .

Ques 13. A train running at the speed of 80 km/h crosses a 350 m long tunnel in 36 seconds. The length of the train (in m) is (1) 350 (2) 380

(3)

420

(4)

450. Step 1: Find the relative speed of the train with respect to the tunnel  
The length of the tunnel is subtracted from the total distance covered by the train to get the relative speed. Relative speed =  $(350\text{m})/(36\text{s}) = 9.72\text{m / s}$

Step 2: Convert the speed from m/s to km/h

To convert m/s to km / h multiply by 3.6. Relative speed =  $9.72\text{m / s} * 3.6 = 34.992\text{km / h}$

Step 3: Calculate the length of the train

Given the speed of the train is  $80\text{km / h}$  the length of the train can be found using the relative speed. Length of the train =  $(80\text{km / h} + 34.992\text{km / h})/3.6 = 38.886\text{m}$

Final Answer

The length of the train is 38.886 meters

Ques 15. In triangle ABC, points D and E are on AB and AC respectively such that DE is parallel to BC. If AD 6 cm, DB 4 cm, AE 9 cm, then the length of EC (in cm) is

(1) 7

(2) 6.4

(3) 6

(4) 5.5

Solu. Step 1: Find the Length of DC

Given DE is parallel to BC, we can use similar triangles to find the length of DC.

Using the property of similar triangles,  $\triangle ADE$  and  $\triangle ABC$ :

$\triangle ADE \sim \triangle ABC$

$AB = AC$

Substitute the given values:

69

$6 + DC = 9 + EC$

Solve for DC.

Step 2: Calculate the Length of EC

Since  $DC = DB$ , we can substitute  $DC$  with 4 in the equation from Step 1 and solve for  $EC$ .

Final Answer

The length of  $EC$  is 6 cm.

Ques 18. From the given options, which pass connects Jammu with Srinagar?

- (1) Banihal pass
- (3) Niti pass
- (2) Nathu La pass
- (4) Rohtang pass

Solu. Out of the given options, Banihal Pass connects Jammu and Srinagar.

- Niti Pass connects Himachal Pradesh with Uttarakhand.
- Nathu La Pass connects Sikkim with Tibet Autonomous Region, China.
- Rohtang Pass connects Manali with Leh.

Ques 19. Which of the following is not correctly matched regarding Padma Awards-2024?

- (1) Padma Vibhushan Award - Shri Konidela Chiranjeevi
- (2) Padma Shri Award - Mithun Chakraborty
- (3) Padma Bhushan Award - M. Fathima Beevi
- (4) Padma Bhushan Award - Sitaram Jindal

Solu. Based on the information you provided earlier and the fact that the Padma Awards 2024 announcements happened in January 2024, we can analyze the answer choices:

- (1) Padma Vibhushan Award - Shri Konidela Chiranjeevi: As you mentioned, there's no public information available about "Shri Konidela Chiranjeevi" receiving a Padma Vibhushan Award in 2024.
- (2) Padma Shri Award - Mithun Chakraborty: This could be a valid match. We would need to verify from official sources if Mithun Chakraborty received a Padma Shri Award in 2024.

(3) Padma Bhushan Award - M. Fathima Beevi: This could also be a valid match. Similar to option (2), verification from official sources is necessary. (4) Padma Bhushan Award - Sitaram Jindal: Similar to options (2) and (3), we need to confirm from official sources if Sitaram Jindal received a Padma Bhushan Award in 2024. Therefore, the most likely incorrect match is: (1) Padma Vibhushan Award - Shri Konidela Chiranjeevi

Ques 22. Out of the given options, which scheme's objective is to conduct an annual survey at the gram panchayat level to monitor the progress in the development process of rural areas ? (1) Mission Antyodaya (2022-23) (2) Mission Karmayogi (2022-23) (3) Mission Rashtriya Gokul (2022-23) (4) Mission Atmanirbhar Bharat (2022-23)

Solu. Mission Antyodaya (1) is the most likely choice. It focuses on rural development and includes annual surveys at the village (gram panchayat) level to monitor progress.

- Others focus on civil servant training (Karmayogi), cow breeds (Gokul), or broader economic goals (Atmanirbhar Bharat).

Ques 24. Who has become the first woman chairperson of the Railway Board of Indian Railways in 2023 ?

- (1) Jaya Verma Sinha
- (2) Mita Vashishth
- (3) Ravneet Kaur
- (4) Vasudha Gupta

Solu. (1) Jaya Verma Sinha  
Jaya Verma Sinha became the first woman chairperson of the Railway Board of Indian Railways in 2023.

Ques 26. "Jhulaghat Suspension Bridge" between India and which country has become fully operational now?

- (1) Bhutan
- (2) Nepal (3) China (4) Myanmar

Solu. Out of the options, Nepal (2) is the country connected by Jhulaghat Bridge.

For real-time status: Search online using "Jhulaghat Suspension Bridge operational status".

Ques 28. Who is the first para-athlete to receive the Padma Bhushan award in India?

- (1) Bhavina Patel
- (2) Devendra Jhajharia
- (3) Avani Lekhara
- (4) Mariyappan Thangavelu

Solu. (2) Devendra Jhajharia

Ques 30. Who among the following is Chile's first woman President?

- (1) Mary Robinson
- (2) Michelle Bachelet
- (3) Kim Campbell
- (4) Jennifer Shipley

Solu. (2) Michelle Bachelet is Chile's first woman President. She served as President of Chile twice, from 2006 to 2010 and then from 2014 to 2018, and played a significant role in advancing social reforms and human rights in the country.

Ques 32. Which of the following substances is a bad conductor of electricity? (1) Diamond (2) Gold (3) Silver (4) Graphite

Solu. (1) The substance that is a bad conductor of electricity is Diamond. Diamond is an electrical insulator due to its strong covalent bonds, which

do not allow for the movement of electrons required for electrical conductivity.

Ques 33. Which of the following disease is caused due to the deficiency of proteins?

- (1) Arthritis
- (3) Goitre
- (2) Kwashiorkor
- (4) Night Blindness

Solu. (2) The disease caused due to the deficiency of proteins is Kwashiorkor. This condition is a form of severe acute malnutrition characterized by inadequate protein intake, leading to symptoms such as edema, muscle wasting, and skin lesions.

Ques 35. DRDO has conducted the first successful flight test of Agni-5 missile equipped with MIRV technology. What is the full form of MIRV?

- (1) Multiple Independently Targetable Re-Entry Vehicle
- (2) Mission India Target Re-Entry Vehicle
- (3) Multiple Independently Technology Re-Entry Vehicle
- (4) Multiple Indirect Targetable Re-Entry vehicle

Solu. (1) The correct full form of MIRV is (1) Multiple Independently Targetable Re-Entry Vehicle. It's a technology that allows a single ballistic missile to carry multiple warheads, each capable of being independently targeted at different targets.

Ques 36. Which Indian has won the "Ramon Magsaysay Award-2023" ?

- (1) Korvi Rakshand
- (2) Ashwini Kumar
- (3) Dipti Ranjan Sahoo
- (4) Dr. Ravi Kannan R.

Solu. The correct answer is (3) Dipti Ranjan Sahoo. He won the Ramon Magsaysay Award in 2023 for his exceptional work in promoting the education and welfare of underprivileged children in Odisha, India.

Ques 37. Who has been appointed the Chairman of the 16th Finance Commission of India?

- (1) Ajay Narayan Jha
- (2) Smt. Annie George Mathew
- (3) Pradip Kumar Mohanty
- (4) Dr. Arvind Panagariya

Solu. (1) The correct answer is (1) Ajay Narayan Jha. He served as the Chairman of the 16th Finance Commission of India.

Ques41. In which state is "Amchang Wildlife Sanctuary" located?

- (1) Assam
- (3) Odisha
- (2) Rajasthan
- (4) Manipur

Solu. (1) The "Amchang Wildlife Sanctuary" is located in (1) Assam. It's an important wildlife sanctuary in Assam, India, known for its biodiversity and conservation efforts.

Ques 44. In the given analogy, choose the word which will replace the question mark:

NEGI: MVTR :: SING: ?

- (1) TRNS
- (2) TRNT
- (3) FRMT
- (4) HRMT

Solu. In the given analogy, each letter in the first word "NEGI" is moved four positions forward in the alphabet to get the corresponding letters in the second word "MVTR".

$$N + 4 = M$$

$$E + 4 = V$$

$$G + 4 = T$$

$$I + 4 = R$$

Similarly, applying the same logic to the word "SING":

$$S + 4 = W$$

$$I + 4 = M$$

$$N + 4 = R$$

$$G + 4 = K$$

So, the word that replaces the question mark is (4) HR

Ques 45. In a certain code language 'ki ru pi' means 'nobody like cruel', 'ki mi cha' means 'king was cruel' and 'ru pi cha' means 'nobody like king'. What is the code for 'was' in the given code language ?

- (1) ki
- (3) cha
- (2) mi
- (4) ru

Solu. (2) To find the code for "was" in the given code language, we can observe the common words between the given sentences:

1. 'ki ru pi' means 'nobody like cruel'
2. 'ki mi cha' means 'king was cruel'
3. 'ru pi cha' means 'nobody like king'

From these sentences, we can see that:

- 'ki' is common in sentences 1 and 2, representing 'nobody'.
- 'ru' is common in sentences 1 and 3, representing 'like'.
- 'pi' is common in sentences 1 and 3, representing 'cruel'.
- 'cha' is common in sentences 2 and 3, representing 'king'.
- 'mi' is present only in sentence 2, representing 'was'.

So, the code for "was" in the given code language is (2) mi.