

Numerical Reasoning Practice Test – Civil Service Exam

We are sharing here the best Numerical Reasoning practice test for the Civil Service exam. This page includes the most common questions for this part of the CSE. Just like our other posts, we also include effective tips and techniques to get the best and correct answer to every question. Eventually, the PDF version of this whole online reviewer will be done and the release will be announced on this site. Meanwhile, you can just use this free online reviewer because it contains the complete scope of the Civil Service exam anyway.

Even though there is no calculator allowed, Quantitative Numerical Reasoning is not so difficult in the Civil Service exam especially if the examinee is very good in Math and logic. It involves mainly the basic Mathematical processes – addition, subtraction, multiplication and division for fractions, ratios, equations, and some problem solving or word problems. There are many series and sequence-questions as well.

Tips to pass the Numerical Reasoning Test in Civil Service Exam

- Relax and just enjoy answering your Math quizzes. If you're relaxed, you'll never lose focus and that is so important.
- Know the basics of Math like adding, subtracting, multiplying and dividing fractions, ratios, decimals, and equations. If you know these concepts, you'll surely get everything. Otherwise, you won't know what to do. (see our techniques below)
- You can use scratch paper for your computations and solutions. Note that you will also have to pass your scratch papers.
- Focus on solving problems. Think, analyze, and solve.
- Pray before the exam. It always helps.

Techniques in Numerical Reasoning Test

For the purpose of reviewing better, I'm going to share here some concepts of Math because like I said, you have to know the basics before you solve everything. I know I have to share these because this is an online reviewer in the first place. Reviewing is practice.

Decimals

For **Addition and Subtraction**, it is very simple and easy. Just line up the given numbers though their decimal point. If it has no decimal point, put one or convert one. Put zeros to complement the numbers if needed.

I remember there were many questions about decimals when I took the exam. Lots involve multiplication and division. Same with fractions, I think I enjoyed that part so much because fractions are my thing.

For **Multiplication**, don't take it too hard because it is very simple too. Just multiply the numbers and count the decimal places to the right of the given numbers then move in that decimal (count) from the right answer to the left.

For **Division**, you have to divide the classic way by making the divisor a whole number. You need to move the decimal place to the right to make it a whole number then do the same way with the dividend. Add zeros to the dividend if necessary. See example below.

Fractions

Some of the questions in Math and Quantitative Numerical Reasoning tests involve fractions because they are also related to decimals, percent, mixed numbers and algebraic expressions. Again, if you master solving fractions, it will be a great edge for you.

Addition and Subtraction of Fractions

In this process, the easiest way is to always simplify the fractions by finding the LCD aka least common denominator, then apply the operation. If the result is an improper fraction (numerator is bigger than denominator), simplify it too by giving the mixed number. Watch this helpful video.

How to Multiply and Divide Fractions

To multiply fractions is easier. Just multiply both the numerator then multiply both the denominator. Simplify the product if you must.

To divide fractions, inverse the second fractions then we follow the rules in multiplication. You can also cross-multiply the given fractions.

Converting Fractions to Decimals and vice versa

In converting fractions to decimals, just divide the numbers and round them off.

- Examples:

$$1/3 = .333$$

$$5/8 = .625$$

$$7/8 = .875$$

Another way is to find a number to multiply by the denominator to make it 10, 100 or 1000...

Positive and Negative Numbers

Addition and Subtraction:

- Positive + Positive = Positive
- Negative + Negative = Negative
- Positive + Negative = Subtract the two and use the sign of the bigger number
- Positive – Negative = Change the sign of the Subtrahend and follow the rules of Addition
- Negative – Negative = Change the sign of the Subtrahend and follow the rules of Addition

Multiplication and Division:

- Multiplying and dividing numbers with similar sign equals Positive (+ x + = +) and (– x – = +)
- Multiplying and dividing numbers with different signs equals Negative (+ x – = –) and (– x + = –)

Number Series and Sequence

There are also logical sequence and number series in this Math exam. Of course, you have to find the next number from the pattern. You will know the right answers by applying the same method you used in a sequence to get the next number or the next.

Examples:

3, 5, 7, 9, 11, 13
2, 4, 8, 16, 32, 64, 128

Problem Solving

We cannot miss to include this scope here because every Math exam has problem solving. The key to finding the correct answers is to analyze the given case well and understand what is being asked. Apply your magical Math logic.

Numerical Reasoning Test Samples:

Instruction: Solve the following Math quizzes.

1. 2187, 729, 243, 81, 27, 9?

1. 6
2. 3
3. 4
4. 2

2. 1, 4, 9, 16, 25, 36, 49, 64?

1. 72
2. 75
3. 81
4. 90

3. 13 -21 34 -55 89?

1. -95
2. 104
3. -123
4. -144

4. AZ CX EV GT?

1. IR KP
2. IR KQ
3. IS KQ
4. IS KP

5. A5 D25 G125 J625 M3125?

1. P15525
2. P15625
3. O15525
4. O15625

6. What is $-25 + 16$?

1. 9
2. -9
3. -41
4. 41

7. What is $107 - (-17)$?

1. -90
2. 90
3. 124
4. -124

8. $(-9)(-22) = ?$

1. 198
2. -198
3. 31
4. -31

9. $(21)(-4) + (8)(-2) = ?$

1. -100
2. 100
3. -23
4. 23

10. $(-560) \div 7 = ?$

1. -80
2. 80
3. -553
4. 553

11. $6/8 + 2 \frac{1}{2} + 4/12$ is also the same as?

1. $\frac{1}{2} + 2.5 + \frac{1}{4}$
2. $\frac{1}{2} + \frac{5}{2} + \frac{1}{6}$
3. $\frac{3}{4} + 2.5 + \frac{1}{6}$
4. $\frac{3}{4} + \frac{5}{2} + \frac{1}{3}$

12. What is the Least Common Denominator of $\frac{1}{8}$, $\frac{3}{4}$, and $\frac{1}{16}$?

1. 4
2. 8
3. 16
4. 2

13. What is the Greatest Common Factor of 36 and 54?

1. 6
2. 12
3. 18
4. 9

14. What is the sum of $\frac{1}{2} + \frac{8}{4} + \frac{6}{12}$?

1. $\frac{15}{12}$
2. $\frac{3}{12}$
3. 3
4. $3\frac{1}{12}$

15. $\frac{3}{9} \times \frac{2}{3} =$

1. $\frac{6}{27}$
2. $\frac{2}{9}$
3. $\frac{9}{18}$
4. $\frac{1}{9}$

16. $\frac{3}{4} \div \frac{1}{8} =$

1. 8
2. 4
3. 12
4. 6

17. What is the decimal form of $\frac{3}{4}$ %?

1. .0075

2. .075
3. .75
4. .00075

18. Convert 3.4% as a fraction.

1. $\frac{34}{100}$
2. $\frac{.34}{100}$
3. $\frac{3.4}{1000}$
4. $\frac{3.4}{100}$

19. What is $\frac{1}{4}$ in decimal?

1. .025
2. .25
3. 2.5
4. .0025

20. What is the ratio of $\frac{1}{2}$ to $\frac{2}{5}$?

1. 3:4
2. 5:4
3. 1:3
4. 2:5

21. 2.12 is multiplied by 10 to the sixth power is?

1. 212.000
2. 2,120,000
3. 212,000
4. 21,200

22. 25 is multiplied by 10 to the fifth power is?

1. 2,500,000
2. 250,000
3. 25,000
4. .000025

23. Find the value of x in the equation: $5x + 25 = 10$

1. 5
2. 3

3. -3
4. -5

24. If $x=8$, find the value of y in the equation: $4x - 2y = 28$.

1. -4
2. -2
3. 4
4. 2

25. Find the value of x if $y= 8$ in the equation: $2x + 4y = 50$

1. 9
2. 8
3. 10
4. 4

Problem Solving / Word Problems:

26. Kit is twice as old as his friend Sam. Sam is 5 years older than Cara. In 5 years, Kit will be three times as old as Cara. How old is Sam?

1. 2 years old
2. 3 years old
3. 4 years old
4. 5 years old

27. James' dad is 5 times older than James and James is twice as old as his sister Sara. In two years, the sum of their ages will be 58. How old is James now?

1. 6 years old
2. 7 years old
3. 8 years old
4. 9 years old

28. Cathy scored 85, 87, 90, 95, and 100 in her Math exams. What will be her average grade in Math from these exams?

1. 91.40
2. 91.50
3. 92
4. 93.50

29. Letty left home and drove at the rate of 50 miles per hour for 2 hours. She stopped for lunch then drove for another 4 hours at 65 mph to reach Los Angeles. How many miles did Letty drive to reach LA?

1. 115 miles
2. 360 miles
3. 310 miles
4. 100 miles

30. Michelle went to SM for the 3-day sale. She bought a new pair of shoes and paid only P2,450 discounted for 20% off. What was the original price of the shoes?

1. P3,062.50
2. P3,260.50
3. P3,620.50
4. P3,026.50

Numerical Reasoning Correct Answers with Solutions and Explanations:

1. (2) The next number in the sequence is 3. Notice that the numbers in the pattern were divided by 3 to get the next number. Therefore, if you divide 2187 by 3 you'll get 729, then the next and so on.

2. (3) 81 – you can get this by squaring the numbers ($1 \times 1 = 1$), ($2 \times 2 = 4$), ($3 \times 3 = 9$) and so on...

3. (4) -144 – subtract the 3rd and 1st to get the 2nd number, do the same to the next 3 sets

4. (1) IR KP – Use the equivalent ascending and descending letters in the alphabet

5. (2) P15625 – the pattern is the next 2 letters from the alphabet and the number multiplied by 5 to get the next one...

6. (2) -9 – positive + negative numbers is to subtract them and follow the sign of the bigger number

7. (3) 124 – positive – negative numbers is to change the sign of the subtrahend and follow the rules in addition

8. (1) 198 – multiplying numbers with similar signs = positive

9. (1) -100 – already explained

10. (1) -80 – dividing numbers with different signs = negative

11. (4) $\frac{3}{4} + \frac{5}{2} + \frac{1}{3}$ – simplify the fractions given and convert the mixed number into improper fraction

12. (3) LCD is 16 – the denominators are: 8, 4 and 16

13. (3) GCF is 18 since 36 and 64 are divisible by 18, 9, 6, 3

14. (3) the answer is 3 because $\frac{1}{2} + 2 + \frac{1}{2} = 3$
15. (2) the answer is $\frac{6}{27}$ simplified into $\frac{2}{9}$
16. (4) you will get 6 if you cross multiply the fractions
17. (1) .0075 because $\frac{3}{4}$ is 75 percent or $\frac{75}{100}$
18. (4) $\frac{3.4}{100}$ because percent is $n/100$
19. (2) .25 because it is the same as $\frac{25}{100}$
20. (2) 5:4 because it is $\frac{1}{2}$ divided by $\frac{2}{5}$
21. (2) 2,120,000 because 10 to the 6th power is in million
22. (1) 2,500,000 because it is $25 \times 100,000$
23. (3) $x = -3$ because $5(-3) + 25 = 10$
24. (4) $y = 2$ because $4(8) - 2(2) = 28$
25. (1) $x = 9$ because $2(9) + 4(8) = 50$

26. (4) 5 years old – to get it, make a table and derive the equation: Write the new relationship in an equation using the ages in 5 yrs.
In 5 years, Kit will be three times as old as Cara.

$$2x + 5 = 3(x - 5 + 5)$$

$$2x + 5 = 3x$$

$$x = 5$$

Sam is now 5 years old.

27. (3) 8 years old – again solve it by making a table and deriving the equation: Let x be James' age now. Add 2 to get the ages in 2 yrs.
Write the new relationship in an equation using the ages in 2 yrs. In two years, the sum of their ages will be 58.
James is now 8 years old.

29. (2) 360 miles Solution: $D = 50(2) + 4(65) = 360$ miles
30. (1) Original price is P3,062.50
To get it, simply divide P2450 by 80%