

COMMON ERRORS

in Mathematics



COMMON ERRORS IN MATHEMATICS

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1. Large Numbers

Sl. No.	INCORRECT	CORRECT
1.	Number name for 88,965 is Eighty eight thousands nine hundreds sixty five.	Number name for 88,965 is Eighty-eight thousand nine hundred sixty-five.
2.	Number name for 9,80,001 is Nine lakh eight-one thousand.	Number name for 9,80,001 is Nine lakh eighty thousand one.
3.	8,001 in the expanded form is written as: $8 \times 1000 + 1.$	8,001 in the expanded form is written as: $8 \times 1000 + 1 \times 1.$
4.	The largest 8-digit number using the digits 7, 8, 5, 4, 1, 2, 0, 5 is 80755421.	The largest 8-digit number using the digits 7, 8, 5, 4, 1, 2, 0, 5 is 87554210.
5.	The smallest 8-digit number using the digits 6, 9, 8, 6, 2, 3, 0, 4 is 02346689.	The smallest 8-digit number using the digits 6, 9, 8, 6, 2, 3, 0, 4 is 20346689.
6.	The predecessor of 1,000,000 is 9,999,999.	The predecessor of 1,000,000 is 999,999.
7.	The successor of 9,99,999 is 1,00,000.	The successor of 9,99,999 is 10,00,000.
8.	$992431 > 2454121.$	$992431 < 2454121.$



9.	$1000000 < 999999$.	$1000000 > 999999$.
10.	Rounding off 199 to nearest 10 gives 190 .	Rounding off 199 to nearest 10 gives 200 .
11.	In Roman numerals, 56 is written as XXXVI .	In Roman numerals, 56 is written as LVI .
12.	In Roman Numerals, 49 is written as XXXIX .	In Roman Numerals, 49 is written as XLIX .
13.	One less than L is XL .	One less than L is XLIX .
14.	$DL > DC$, in Roman numbers.	$DL < DC$, in Roman numbers.

2. Fundamental Operations

Sl. No.	INCORRECT	CORRECT
1.	$66 + 35 = 91$	$66 + 35 = 101$
2.	$4,99,323 + 1000 = 4,10,323$	$4,99,323 + 1000 = 5,00,323$
3.	$94 - 37 = 67$	$94 - 37 = 57$
4.	$2,32,761 - 1,06,300$ $= 1,06,300 - 2,32,761$	$2,32,761 - 1,06,300$ $\neq 1,06,300 - 2,32,761$
5.	$469 \times 20 = 938$	$469 \times 20 = 9380$
6.	$2208 \div 2 = 114$	$2208 \div 2 = 1104$
7.	By how much is 95,732 greater than 82,365? Answer: $95,732 + 82,365 = 1,78,097$	By how much is 95,732 greater than 82,365? Answer: $95,732 - 82,365 = 13,367$
8.	If a shirt costs ₹ 150, then 15 shirts will cost ₹ $150 \div 15 = ₹ 10$.	If a shirt costs ₹ 150, then 15 shirts will cost ₹ $150 \times 15 = ₹ 2250$.

3. Multiples and Factors



Sl. No.	INCORRECT	CORRECT
1.	If a number is divisible by 3 , then the number is also divisible by 9 .	If a number is divisible by 9 , then the number is also divisible by 3 .
2.	55 and 67 are Co-prime and Twin prime numbers.	55 and 67 are Co-prime numbers but not Twin prime numbers.
3.	L.C.M. of 6 and 4 is 24 .	L.C.M. of 6 and 4 is 12 .
4.	H.C.F. of 15 and 30 is 5 .	H.C.F. of 15 and 30 is 15 .

4. Fractions

Sl. No.	INCORRECT	CORRECT
1.	$\frac{1}{2} < \frac{5}{10}$	$\frac{1}{2} = \frac{5}{10}$
2.	$\frac{1}{2} < \frac{1}{3}$	$\frac{1}{2} > \frac{1}{3}$
3.	$\frac{4}{1} > 4$	$\frac{4}{1} = 4$
4.	$\frac{24}{5} > 4\frac{4}{5}$	$\frac{24}{5} = 4\frac{4}{5}$
5.	$\frac{2}{5} + \frac{3}{4} = \frac{2+3}{5+4} = \frac{5}{9}$	$\frac{2}{5} + \frac{3}{4} = \frac{8+15}{20} = \frac{23}{20}$
6.	$2\frac{1}{4} + 3\frac{1}{4} = 5\frac{1}{4}$	$2\frac{1}{4} + 3\frac{1}{4} = 5\frac{1}{2}$
7.	$\frac{2}{5} \times \frac{3}{5} = \frac{6}{5}$	$\frac{2}{5} \times \frac{3}{5} = \frac{6}{25}$
8.	$\frac{3}{4} \div \frac{1}{3} = \frac{1}{4}$	$\frac{3}{4} \div \frac{1}{3} = \frac{9}{4}$



9.	How many halves are there in 10? Answer: 5	How many halves are there in 10? Answer: 20
10.	One-third of 9 is 27.	One-third of 9 is 3.

5. Decimals

Sl. No.	INCORRECT	CORRECT
1.	$5.2 < 5.09$	$5.2 > 5.09$
2.	$4.1 < 4.100$	$4.1 = 4.100$
3.	$8.54 + 1.62 = 9.116$	$8.54 + 1.62 = 10.16$
4.	$4.02 - 2.1 = 2.1$	$4.02 - 2.1 = 1.92$
5.	$1.1 \times 1.1 = 12.1$	$1.1 \times 1.1 = 1.21$
6.	$10 \div 0.5 = 2.0$	$10 \div 0.5 = 20$
7.	$0.10 \div 0.2 = 5$	$0.10 \div 0.2 = 0.5$
8.	$0.001 \div 1000 = 1$	$0.001 \div 1000 = 0.000001$

6. Measurements



Sl. No.	INCORRECT	CORRECT
1.	1 dm = 10 m	1 dm = $\frac{1}{10}$ m = 0.1 m
2.	1 decagram = 1 dg	1 decagram = 1 dag
3.	4 l 3 ml = 4.3 l	4 l 3 ml = 4.003 l
4.	5 kg. of potatoes	5 kg of potatoes
5.	3 l 250 ml + 1 l 750 ml = 4 l 1000 ml	3 l 250 ml + 1 l 750 ml = 5 l
6.	1 km - 350 m = 750 m	1 km - 350 m = 650 m
7.	4 m 25 cm \times 4 = 5 m	4 m 25 cm \times 4 = 17 m
8.	50 kg 50 g \div 5 = 10.1 kg	50 kg 50 g \div 5 = 10.01 kg



7. Comparing Quantities

Sl. No.	INCORRECT	CORRECT
1.	$13:5 > 9:2$	$13:5 < 9:2$
2.	120 g to 12 kg in lowest form is 10:1 .	120 g to 12 kg in lowest form is 1:100 .
3.	10 min : 1 h :: 6 h : 36 h is not in proportion .	10 min : 1 h :: 6 h : 36 h is in proportion .
4.	What percentage is 10 m of 20 km? Answer: 50 %	What percentage is 10 m of 20 km? Answer: 0.05 %

8. Money and Business Math



Sl. No.	INCORRECT	CORRECT
1.	1 rupees	1 rupee
2.	50 paisa	50 paise
3.	100 rupee	100 rupees
4.	A 1000 rupees note	A 1000-rupee note
5.	₹ 3.50 = Three rupees five paise	₹ 3.50 = Three rupees fifty paise
6.	Ten rupees five paise = ₹ 10.5	Ten rupees five paise = ₹ 10.05
7.	₹ 33.50 + ₹ 3.50 = ₹ 36.100	₹ 33.50 + ₹ 3.50 = ₹ 37.00
8.	₹ 100 - ₹ 29.50 = ₹ 71.50	₹ 100 - ₹ 29.50 = ₹ 70.50
9.	₹ 345.45 × 14 = ₹ 483630	₹ 345.45 × 14 = ₹ 4836.30



10.	$\text{₹ } 1010 \div 2 = \text{₹ } 550$	$\text{₹ } 1010 \div 2 = \text{₹ } 505$
11.	If $SP < CP$, there is a profit .	If $SP < CP$, there is a loss .
12.	If $SP > CP$, there is a loss .	If $SP > CP$, there is a profit .
13.	Profit or Loss % $= \left(\frac{\text{Profit or Loss}}{SP} \times 100 \right)$	Profit or Loss % $= \left(\frac{\text{Profit or Loss}}{CP} \times 100 \right)$
14.	Simple Interest $= \text{Principal} - \text{Amount}$	Simple Interest $= \text{Amount} - \text{Principal}$
15.	The original money deposited or borrowed is called the Principle .	The original money deposited or borrowed is called the Principal .

9. Time



Sl. No.	INCORRECT	CORRECT
1.	6:45 = Quarter past 7	6:45 = Quarter to 7
2.	5:15 = Quarter to 5	5:15 = Quarter past 5
3.	12:00 p.m. or 12 noon is same as 00:00 hours	12:00 p.m. or 12 noon is same as 12:00 hours
4.	12:00 a.m. or 12 midnight is same as 12:00 hours	12:00 a.m. or 12 midnight is same as 00:00 hours
5.	6:00 a.m. equals 18:00 hours	6:00 a.m. equals 06:00 hours
6.	6:00 p.m. equals 06:00 hours	6:00 p.m. equals 18:00 hours
7.	Thursday comes before Wednesday.	Tuesday comes before Wednesday.
8.	May has 30 days.	May has 31 days.
9.	October comes before September.	August comes before September.



10.	February always has 28 days.	February has 28 days in an ordinary year and 29 days in a leap year.
11.	$48 \text{ min } 12 \text{ s} + 8 \text{ h } 54 \text{ s}$ = 56 min 66 s	$48 \text{ min } 12 \text{ s} + 8 \text{ h } 54 \text{ s}$ = 8 h 49 min 6 s
12.	$48 \text{ min } 12 \text{ s} + 8 \text{ min } 54 \text{ s}$ = 56 min 66 s	$48 \text{ min } 12 \text{ s} + 8 \text{ min } 54 \text{ s}$ = 57 min 6 s
13.	$48 \text{ min } 12 \text{ s} - 8 \text{ min } 54 \text{ s}$ = 40 min 42 s	$48 \text{ min } 12 \text{ s} - 8 \text{ min } 54 \text{ s}$ = 39 min 18 s
14.	$14 \text{ years } 7 \text{ months} - 2 \text{ years } 9 \text{ months}$ = 12 years 2 months	$14 \text{ years } 7 \text{ months} - 2 \text{ years } 9 \text{ months}$ = 11 years 10 months
15.	No. of days between 25 th March and 6 th May (including both the dates) = 42 days	No. of days between 25 th March and 6 th May (including both the dates) = 43 days

10. Algebra



Sl. No.	INCORRECT	CORRECT
1.	In '4t', 4 is the variable and t is the constant .	In '4t', 4 is the constant and t is the variable .
2.	'10x + 1' involves only addition .	'10x + 1' involves both addition and multiplication .
3.	'-10x + 1' involves multiplication, addition and subtraction .	'-10x + 1' involves multiplication and addition .
4.	The expression for '3 times x is subtracted from 15' is 3x - 15 .	The expression for '3 times x is subtracted from 15' is 15 - 3x .
5.	$\frac{x}{5}$, 5x and x are unlike terms.	$\frac{x}{5}$, 5x and x are like terms.
6.	xy and yx are unlike terms.	xy and yx are like terms.



11. Geometry

Sl. No.	INCORRECT	CORRECT
1.	A line has 2 end points.	A line segment has 2 end points.
2.	A ray has no end point .	A ray has 1 end point .
3.	A line has both length and breadth .	A line has only length but no breadth .
4.	Any two sides of a rectangle are equal.	The two opposite sides of a rectangle are equal.
5.	A circle has 1 side and 1 corner .	A circle has no sides and no corners .
6.	A cube has 4 vertices .	A cube has 8 vertices .
7.	A cylinder has 2 vertices .	A cylinder has 0 vertices .
8.	A sphere has 0 faces .	A sphere has 1 curved face .
9.	Polygon with six sides is called a sixagon .	Polygon with six sides is called a hexagon .
10.	A chord is a line that joins two points on the circle.	A chord is a line segment that joins two points on the circle.
11.	A line where two faces meet is called a vertex .	A line where two faces meet is called an edge .
12.	Figures having same shape but different size are called congruent figures.	Figures having same shape and size are called congruent figures.

12. Calculations



Sl. No.	INCORRECT	CORRECT
1.	When speed is 300 km/h and time is 10 hours, the distance travelled $= \frac{300}{10} = 30 \text{ km}$	When speed is 300 km/h and time is 10 hours, the distance travelled $= 300 \times 10 = 3000 \text{ km}$
2.	When distance = 360 km and time is 60 minutes, speed $= \frac{360}{60} = 6 \text{ km/h}$	When distance = 360 km and time is 60 minutes, speed $= \frac{360}{1} = 360 \text{ km/h}$
3.	When distance is 300 km and speed is 10 km/h, the time taken $= 300 \times 10 = 3000 \text{ h}$	When distance is 300 km and speed is 10 km/h, the time taken $= \frac{300}{10} = 30 \text{ h}$
4.	The average of 30, 20 and 40 is 90.	The average of 30, 20 and 40 is 30.
5.	$^{\circ}\text{C} = (^{\circ}\text{F} + 32) \times \frac{9}{5}$	$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times \frac{5}{9}$



6.	$^{\circ}\text{F} = \frac{5}{9} ^{\circ}\text{C} - 32$	$^{\circ}\text{F} = \frac{9}{5} ^{\circ}\text{C} + 32$
7.	The freezing point of water is 0°c .	The freezing point of water is 0°C .
8.	The boiling point of water is 212°f .	The boiling point of water is 212°F .

13. Perimeter, Area and Volume



Sl. No.	INCORRECT	CORRECT
1.	Perimeter of a Rectangle is $= 2 \times L + B$	Perimeter of a Rectangle is $= 2 \times (L + B)$
2.	Area of a Square is $= 4 \times \text{Side}$	Area of a Square is $= \text{Side} \times \text{Side}$
3.	Area of the ground $= 320 \text{ m}$	Area of the ground $= 320 \text{ sq. m}$
4.	Volume of the box $= 150 \text{ m}$	Volume of the box $= 150 \text{ cu. m}$
5.	Volume of the box $= \text{Area of base} \div \text{Height}$	Volume of the box $= \text{Area of base} \times \text{Height}$



14. Data Handling

Sl. No.	INCORRECT	CORRECT
1.	When data is represented using pictures, it is called a diagram .	When data is represented using pictures, it is called a pictograph .
2.	The standing lines used to calculate quantity of items are called tally mark .	The standing lines used to calculate quantity of items are called tally marks .
3.	A bar graph has bars of different heights and widths .	A bar graph has bars of different heights but of the same width .