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OLYMPIAD WORKSHEET: JANUARY - 2018

GRADE: X

SUBJECT: MATHEMATICS

- Q1. Which of the following is not a measure of central tendency?
- (a) Mean (b) Median
(c) Mode (d) Standard deviation
- Q2. The algebraic sum of the deviations of a frequency distribution from its mean is
- (a) always positive (b) always negative
(c) Mode (d) a non-zero number
- Q3. The arithmetic mean of 1, 2, 3, ..., n this
- (a) $\frac{n+1}{2}$ (b) $\frac{n-1}{2}$ (c) $\frac{n}{2}$ (d) $\frac{n}{2}+1$
- Q4. For a frequency distribution, mean, median and mode are connected by the relation
- (a) Mode = 3 Mean – 2 Median (b) Mode = 2 Median – 3 Mean
(c) Mode = 3 Median – 2 Mean (d) Mode = 3 Median + 2 Median
- Q5. Which of the following cannot be determined graphically?
- (a) Mean (b) Median (c) Mode (d) None of these
- Q6. The median of a given frequency distribution is found graphically with the help of
- (a) Histogram (b) Frequency curve
(c) Frequency Polygon (d) Ogive

Q7. The mode of a frequency distribution can be determined graphically from

- (a) Histogram (b) Frequency polygon
(c) Ogive (d) Frequency curve

Q8. Mode is

- (a) Least frequent value (b) middle most value
(c) most frequent value (d) None of these

Q9. The mean of n observations is \bar{X} . If the first item is increase by 1, second by 2 and so on, then the new mean is

- (a) $\bar{X} + n$ (b) $\bar{X} + \frac{n}{2}$ (c) $\bar{X} + \frac{n+1}{2}$ (d) None of these

Q10. One of the methods of determining mode is

- (a) Mode = 2 Median – 3 Mean (b) Mode = 2 Median + 3 Mean
(c) Mode = Median – 2 Mean (d) Mode = 3 Median + 2 Mean

Q11. If the mean of he following distribution is 2.6, then the value of y is

Variable (x) :	1	2	3	4	5
Frequency	4	5	y	1	2

(a) 3 (b) 8 (c) 13 (d) 24

Q12. The relationship between mean, median and mode for a moderately skewed distribution is

- (a) Mode = 2 Median – 3 Mean (b) Mode = Median – 2 Mean
(c) Mode = 2 Median – Mean (d) Mode = 3 Median – 2 mean

Q13. The mean of a discrete frequency distribution x_i / f_i , $i = 1, 2, \dots, n$ is given by

- (a) $\frac{\sum f_i x_i}{\sum f_i}$ (b) $\frac{1}{n} \sum_{i=1}^n f_i x_i$ (c) $\frac{\sum_{i=1}^n f_i x_i}{\sum_{i=1}^n x_i}$ (d) $\frac{\sum_{i=1}^n f_i x_i}{\sum_{i=1}^n x_i}$

- Q14. If the arithmetic mean of x , $x + 3$, $x + 9$, and $x + 12$ is 10 the $x =$
(a) 1 (b) 2 (c) 6 (d) 4
- Q15. If the median of the data : 24, 25, 26, $x + 2$, $x + 3$, 30, 31, 34 is 27.5 then $x =$
(a) 27 (b) 25 (c) 28 (d) 30
- Q16. Of the ,edoam pf the data" 6, 7, $x - 2$, x , 17, 20, written in ascending order, is 16. Then $x =$
(a) 15 (b) 16 (c) 17 (d) 18
- Q17. T he median of first 10 prime numbers is
(a) 44 (b) 12 (c) 13 (d) 14
- Q18. If the mode of the data : 64, 60, 48, x , 43, 34 is 43, then $x + 3 =$
(a) 44 (b) 45 (c) 46 (d) 48
- Q19. If the mode of the data : 16, 15, 17, 16, 15, x , 19, 17, 14 is 15 , then $x =$
(a) 15 (b) 16 (c) 17 (d) 19
- Q20. The mean of 1, 3, 4, 5, 7, 4 s m. The numbers 3, 2, 2, 4, 3, 3, p have mean $m - 1$ and median q . he, $p + q =$
(a) 4 (b) 5 (c) 6 (d) 7

*For more practice material please click: www.brilliant.org; www.sofolympiadtrainer.com
www.olympiadhelper.com