

Unit 1 – Tools of Algebra Test

Choose the most suitable choice: (Q1 - Q5)

1. $x + 5 = 5 + x$ is an example of which property?

- a) associative property of addition
- b) additive identity
- c) commutative property of addition
- d) additive inverse

2. The subtraction of 10 times of x from y is

- a) $5x - y$
- b) $y - 10x$
- c) $5x - y$
- d) $5 + 10y$

3. $(150) + (50 + 25) = (150 + 50) + 25$

- a) associative property of addition
- b) distributive property
- c) commutative property of multiplication
- d) multiplicative inverse property

4. $\left(\frac{x}{x}\right)^n = \dots\dots\dots$

- a) x^{mn}
- b) x^{m+n}
- c) x^{m-n}
- d) 1

5. An algebraic expression containing three terms is called:

- a) monomial
- b) trinomial
- c) binomial
- d) None of these

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Solve the following:

6. $x \frac{(3x^2 - xz)}{3xz - z^2}$

7. $2 - \frac{y}{4} = \frac{y}{4} + 1$

8. $-(k - 5) + 3(k + 2) = 4(k - 3) - 1$

9. Mr. X's father is 4 times as old as Mr. X. After 5 years, father will be three times as old as X. Find their present ages.

10. The velocity of an object fired directly upward is given by $V = 80 - 32t$, where t is in seconds.

Fill in the blanks

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11. If two events (A,B) are mutually exclusive, the probability of event A or event B occurring is given by _____.
12. $P(A)$ is expressed as _____.
13. The solution to the equation $\frac{3x}{5} - \frac{x}{2} = 4$ is _____.
14. The multiplicative inverse of $\frac{-27}{9}$ is _____.
15. The two general types of random variables are _____ and _____.

Choose as True or False.

16. Probability of an even number on top in rolling a die is $\frac{1}{2}$. (T/F)
17. $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ when A and B are overlapping. (T/F)
18. The multiplicative inverse of $\frac{-25}{5}$ is $\frac{8}{5}$. (T/F)
19. The simplified form of $2x \times \frac{(5y-y)}{2}$ is $4xy$. (T/F)
20. The associative property addition says that it doesn't matter how we group the added numbers (i.e. which we calculate first)
 $(a + b) + c = a + (b + c)$ (T/F)