Work Sheet – 05 (Mathematics)
for class – Ten (03.10.2020)
Chapter- Three, Algebraic Expression
Exercise - 3.5

Creative Multiplication Choice Questions

1. If the rate of interest is Tk. 5 then what is the simple profit of Tk. 500 in 3 years? [D.B.- 20]

a) Tk. 15 b) Tk. 45
c) Tk. 60 d) Tk.75

2. A boat is rowing towards the current per hour is 15 km and against the current goes 25 km in 5 hours. What is the speed of the current per hour? [R.B.- 20]

a) 20 b) 10
c) 5 d) 4

3. What is the ratio between cost price and selling price at 25% profit? [C.B.- 20]

a) 1 : 4 b) 4 : 3
c) 5 : 4 d) 4 : 5

4. An item is sold at 20% loss. What is the ratio of selling price and cost price? [B.B.- 20]

a) 1 : 5 b) 4 : 5
c) 6 : 5 d) 5 : 4

Answer to the questions No. (5 – 6) based on the following information: The price of a pen Tk. 48 on discount 20% from its real price.

5. What is the real price of the pen? [My.B.- 20]

a) Tk. 96 b) Tk. 72
c) Tk. 60 d) Tk. 56

6. What is the real price in percentage of selling price? [My.B.- 20]

a) 80% b) 64%
c) 48% d) 32%

7. How much money will become Tk. 912 as profit principal in 2 years at the rate of simple profit 7% per amount? [J.B.- l9]

a) 894.1 tk b) 852.33 tk
c) 796.57 tk d) 800.00 tk

8. A can do a work in x days and B can do that work in y days. In how many days do they together finish the work? [B.B.- l9]

a) xy days b) $(x - y)$days
c) $\frac{x + y}{xy}$ days d) $\frac{xy}{x + y}$ days

9. A man has invested Tk. 10,000 for 3 years at the rate of 3% per annum. What is the compound profit? [C.B.- l7]

a) Tk. 92.727 b) Tk. 927.27
c) Tk. 9272.7 d) Tk.10,927.27

10. What is the profit of Tk. 3000 in 3 years at the rate of simple profit 10 percent per annum? [J.B.- 17]

a) Tk. 90 b) Tk. 300
c) Tk. 900 d) Tk. 9000

11. In profit and loss – [Ctg.B.- 15]

i. cost price − selling price = loss
ii. selling price − cost price = profit
iii. profit and loss are calculated on cost price

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

Answer to the questions No. (12 - 13) according to the information: -
At the rate of simple profit 5% per annual 500 taka in 3 years will become.

12. What is the value of simple profit? [R.B.- 15]

a) 25 taka b) 50 taka
c) 75 taka d) 100 taka

13. Which one is the compound profit? [R.B.- 15]

a) 41.81 taka b) 51.25 taka
c) 78.81 taka d) 78.95 taka

14. If $f(x) = x^2 - 4x + 4$ then which one of the following is the value of $f(2)$?

a) 4 b) 2
c) 1 d) 0

15. Which one of the following is the value of $\frac{1}{2}\{(a + b)^2 - (a - b)^2\}$?

a) $2(a^2 + b^2)$ b) $a^2 + b^2$
c) 2ab d) 4ab

16. If $x + \frac{2}{x} = 3$ then what is the value of $x^3 + \frac{8}{x^3}$?

a) 1 b) 8
c) 9 d) 16

17. Which one of the following is the factorized form of $p^4 + p^2 + 1$?

a) $(p^2 - p + 1)(p^2 + p - 1)$
b) $(p^2 - p - 1)(p^2 + p + 1)$
c) $(p^2 + p + 1)(p^2 + p + 1)$
d) $(p^2 + p + 1)(p^2 - p + 1)$

18. If $x = 2 - \sqrt{3}$ then what is the value of x^2?

a) 1 b) $7 - 4\sqrt{3}$
c) $2 + \sqrt{3}$ d) $\frac{1}{2 - \sqrt{3}}$

19. If $f(x) = x^2 - 5x + 6$ and $f(x) = 0$ then what is the value of x = What?

a) $2, 3$ b) $-5, 1$
c) $-2, 3$ d) $1, -5$

20. What is to be added to $9x^2 + 16y^2$ then so that their sum will be a perfect square?

a) 6xy b) 12xy
c) 24xy d) 144xy

If $x^4 - x^2 + 1 = 0$ then answer the following questions from (21 – 23).

21. What is the value of $x^2 + \frac{1}{x^2}$?

a) 4 b) 2
c) 1 d) 0

22. What is the value of $(x + \frac{1}{x})^2$?

a) 4 b) 3
c) 2 d) 0

23. What is the value of $x^3 + \frac{1}{x^3}$?

a) 3 b) 2
c) 1 d) 0

24. If $a^2 + b^2 = 9$ and $ab = 3$ then -

i. $(a - b)^2 = 3$
ii. $(a + b)^2 = 15$
iii. $a^2 + b^2 + a^2b^2 = 18$

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

25. If $3a^5 - 6a^4 + 3a + 14$ is an algebraic expression —

i. Variable of the expression is a.
ii. Degree of the expression is 5.
iii. Constant of a^4 is 6.

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

26. Factor of $P^3 - \frac{1}{64}$ then -

i. $p - \frac{1}{4}$
ii. $p^2 + \frac{p}{4} + \frac{1}{8}$
iii. $p^2 + \frac{p}{4} + \frac{1}{16}$

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

27. What is the difference between compound and simple profit of tk. 6000 in 3 years at rate 10% per annum?

a) Tk. 186 b) Tk. 1800
c) Tk. 1986 d) Tk. 6000

28. A can do a work in x days and B can do that in 3x days. In the same time how, many times does A of B work.

a) 2 times b) 2.5 times
c) 3 times d) 4 times

29. 4 men and 10 boys can do a piece of work in 18 days. In how many days can 12 men and 30 boys do it?

a) 6 days b) 5 days
c) 4 days d) 3 days

30. What is the profit of 2 years at Tk. 600 at a profit of 2%?

a) Tk. 2400 b) Tk. 600
c) Tk. 24 d) Tk. 6

31.

i. If each donate q taka then n person donates qn taka.
ii. If v is the velocity per hour and t is time then distance is $\frac{v}{t}$.
iii. For simple interest, I = Pnr.

Which of the following is correct?

a) I b) ii
c) i and iii d) iii