

**Work Sheet – 02 (Mathematics)
for class – Nine (06.11.2020)****Chapter – Eleven, Exercise - 11.1
Algebraic Ratio and Proportion****Creative Multiplication Choice Questions**

1. If a, b, c is ordered proportional then which one is correct?

[S.B.- 16, 15, D.B.- 15]

- a) $b^2 = ac$ b) $a^2 = bc$
c) $c^2 = ab$ d) $b^2 = a^2c$

2. The ratio of the present age of father and son is 8 : 3 and the sum of their ages is 55 years. What the present age of the son in years? [S.B.- 16]

- a) 15 b) 12
c) 9 d) 6

3. What is the fourth proportion of 5, 10, 8? [J.B.- 16]

- a) 10 b) 12
c) 14 d) 16

4. a, b, c will be ordered proportional if – [C.B.- 15]

- i. $\frac{a}{b} = \frac{b}{c}$
ii. $a^2 = bc$
iii. $ac - b^2 = 0$

Which one of the following is correct?

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

5. If r, s, t is ordered proportional – [Ctg.B.- 15]

- i. $\frac{r}{s} = \frac{s}{t}$
ii. Value of each ratio $\frac{r+s}{s+t}$
iii. $rs = st$

Which one of the following is correct?

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

6. If a, b, c is ordered proportional then - [Dj.B.- 15]

- i. $a : b :: b : c$
ii. $a^2 = bc$
iii. $b^2 = ac$

Which one of the following is correct?

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

7. According to the property of ratio and proportion — [J.B.- 15]

- i. If $a : b = b : a$ then $a = b$.
ii. If $a : b = c : d$ then $ac = bd$.
iii. If $a : b = 5 : 3$ then $a : 5 = b : 3$.

Which one of the following is correct?

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

8. If the ratio of two numbers is 3 : 2 and their H.C.F is 4 then what is the L.C.M of the number? [R.B.- 15]

- a) 6 b) 8
c) 12 d) 24

9. If $a : b = 3 : 4$ and $b : c = 5 : 4$ then $a : b : c =$ What? [R.B.- 15]

- a) 15 : 20 : 16 b) 16 : 15 : 20
c) 20 : 16 : 15 d) 20 : 15 : 16

10. The ratio of water and syrup in a solution is 2 : 3. What is the percentage of water in it? [C.B.- 15]

- a) 20 b) 30
c) 40 d) 50

11. An article is sold at the profit of 20%. What is the ratio of selling and buying? [Ctg.B.- 15]

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

12. If the ratio of two numbers is 3 : 4 and their L.C.M is 180 then find the numbers. [S.B.- 15]

- a) 30, 45 b) 45, 60
c) 45, 75 d) 45, 70

13. In the ΔABC , $\angle A : \angle B = 1 : 2$ and $\angle B : \angle C = 2 : 3$ then measurement of $\angle C$ is? [D.B.- 15]

- a) 90° b) 60°
c) 45° d) 30°

14. The present age of father and his son is 40 years and 10 years respectively. After 5 years what will be the ratio of their ages? [J.B.- 15]

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

15. Condition of the ratio is— [R.B.- 15]

- i. $x : y = y : x$ then $x = y$.

ii. $x : y = m : n$ then $(x + y) : y = (m + n) : n$.

iii. $x : y = z : p$ then $yz = xp$.

Which one of the following is correct?

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

The ratio of present age of father and son is $7 : 2$ and the ratio will be $8 : 3$ after 5 years. Answer the questions no. (16 – 17):

16. What is father age?

- a) 10 b) 25
c) 35 d) 45

17. What is son age?

- a) 10 b) 25
c) 35 d) 45

18. If $x : y = 1 : 2$ then $3x : 4y =$ What?

- a) $4 : 3$ b) $4 : 5$
c) $3 : 4$ d) $3 : 8$

19. If a, b, c is continued proportional, which one is correct?

- a) $a = b = c$ b) $ab = be$
c) $a^2 = be$ d) $b^2 = ac$

20. If $x : y = 2 : 1$ and $y : z = 2 : 1$ then $z : x =$ What?

- a) $1 : 4$ b) $1 : 1$
c) $4 : 1$ d) $4 : 4$

21. If a, b, c is in ordered proportional then -

- i. $b^2 = ac$
ii. $ab = a + c$
iii. $\frac{a+b}{b} = \frac{b+a}{c}$

Which one of the following is correct?

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

22. If $\frac{a}{b} = \frac{c}{d} = \frac{e}{f} = \frac{8}{h}$ then each ratio will be equal to what?

- a) $\frac{a + c + e + g}{b + d + f + h}$
b) $\frac{b + d + f + h}{a + c + e + g}$
c) $\frac{aceg}{bdfh}$
d) $\frac{bdfh}{aceg}$

23. If $\frac{1}{3}A = \frac{1}{4}B = \frac{1}{5}C$ than $A : B : C =$ What?

- a) $4 : 3 : 5$ b) $3 : 4 : 5$
c) $4 : 3 : 2$ d) $20 : 15 : 12$

24. If $\frac{b+c}{a} = \frac{c+a}{b} = \frac{a+b}{c}$ then what is the value of each ratio?

- a) 2 b) 1
c) $\frac{1}{2}$ d) -2

25. If $\frac{y-x}{3x+y} = \frac{1}{9}$ than $x : y =$ What?

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

26. If $x : y = 5 : 6$ then $6x : 5y =$ What?

- a) $\frac{1}{6}$ b) $\frac{3}{5}$
c) $\frac{5}{6}$ d) $1 : 1$

27. The ratio of the radii of two circles is $2 : 3$. What is the ratio of their areas?

- a) $9 : 16$ b) $1 : 2$
c) $4 : 9$ d) $22 : 7$

28. If the area of a circle is equal to the area of a square then what is the ratio of their perimeter?

- a) $2 : \sqrt{\pi}$ b) $3 : \sqrt{\pi}$
c) $\sqrt{\pi} : 2$ d) $\sqrt{\pi} : 1$

29. If p, q, r the three ordered proportional terms then which of the following is correct?

- a) $p^2 = qr$ b) $q^2 = pr$
c) $pq = qr$ d) $r^2 = pq$

30. If $3A = 6B = 6C$ then $A : B : C =$ What?

- a) $2 : 1 : 1$ b) $4 : 3 : 5$
c) $3 : 4 : 5$ d) $20 : 5 : 12$

31. If $\frac{2x+3y}{3x+5y} = \frac{18}{29}$ then $x : y =$ What?

- a) $4 : 5$ b) $3 : 4$
c) $2 : 3$ d) $5 : 4$

32. If $\frac{x}{y} = \frac{2}{3}$ then value of $\frac{6x+y}{3x+2y}$ is -

- a) $\frac{4}{5}$ b) $\frac{14}{15}$
c) $\frac{5}{4}$ d) $\frac{20}{13}$