Cosmo School
Work Sheet – 01 (Mathematics)
for class – Nine (01.11.2020)
Chapter – Eleven, Exercise - 11.1
Algebraic Ratio and Proportion

Creative Multiplication Choice Questions

1. If p, q and r are in continued proportion then $\frac{p^2 + q^2}{q^2 + r^2}$ = What?　　[D.B.- 20]
   a) $\frac{r}{p}$　　　　b) $\frac{p}{r}$
   c) $\frac{q}{p}$　　　　d) $\frac{q}{r}$

2. What is the ratio between a diameter and circumference of a circle?　[My.B.- 20]
   a) $1 : \pi$　　　b) $2 : \pi$
   c) $\pi : 1$　　　d) $\pi : 1$
   Ans: a

3. If x : y = 2 : 3 and 2 : x = 1 : 2 then what is the value of y?　[My.B.- 20]
   a) $\frac{1}{3}$　　　b) $\frac{3}{2}$
   c) 6　　　d) 8

4. If the ratio of the two numbers is 3 : 5 and their H.C.F is 4 then what is the L.C.M of the number?　[R.B.- 20]
   a) 12　　　b) 15
   c) 20　　　d) 60

5. If the ratio of two numbers is 3 : 4 and their H.C.F is 3 then what is the L.C.M of the numbers?　[Dj.B.- 20, Ctg.B.- 17]
   a) 4　　　b) 9
   c) 12　　　d) 36

6. If $\frac{x}{y} = \frac{2}{3}$ then what is the value of $\frac{6x + y}{3x + 2y}$?　[Dj.B.- 20, Ctg.B,- 15]
   a) $\frac{4}{5}$　　　b) $\frac{14}{15}$
   c) $\frac{5}{4}$　　　d) $\frac{20}{13}$

7. Which one of the following is the continue proportion?　[C.B.- 20]
   a) 5 : 15 : 20　　b) 3 : 5 : 6
   c) 2 : 4 : 8　　d) 2 : 5 : 10

8. If p : q = 3 : 4 and q : r = 5 : 7 then what is the value of p : q : r?　[Ctg.B.- 20]
   a) 3 : 4 : 7　　b) 3 : 5 : 7
   c) 12 : 20 : 28　　d) 15 : 20 : 28

9. If j, k, l and m are ordered proportional then –　[J.B.- 20, R.B.- 19]
   i. $\frac{j}{k} = \frac{l}{m}$
   ii. $\frac{j}{k} = \frac{k}{l}$
   iii. $\frac{k}{l} = \frac{l}{m}$
   Which one of the following is correct?
   a) i and ii　　　b) i and iii
   c) ii and iii　　　d) i, ii and iii

10. If $\frac{a}{b} = \frac{b}{c} = \frac{2}{3}$ then what is the value of a : c?　[D.B.- 19, Dj.B.- 17]
    a) 2 : 3　　　b) 3 : 4
    c) 4 : 9　　　d) 9 : 4

11. If q, r, s, t is ordered proportional then –　[R.B.- 19]
    i. $\frac{r}{q} = \frac{s}{r}$
    ii. $\frac{s}{r} = \frac{t}{s}$
    iii. $\frac{r}{q} = \frac{t}{s}$
    Which one of the following is correct?
    a) i and ii　　　b) i and iii
    c) ii and iii　　　d) i, ii and iii

12. If x : y = 3 : 2 then 4x : 5y = What?　[Dj.B.- 19]
    a) 15 : 8　　　b) 8 : 15
    c) 5 : 6　　　d) 6 : 5

13. If the ratio of two numbers is 7 : 10 and L.C.M is 910 then what is the difference of the numbers?　[C.B.- 19]
    a) 39　　　b) 91
    c) 130　　　d) 221

14. If a : b = c : d then which one is correct of following?　[C.B.- 19]
    a) bc = ad　　　b) ab = cd
    c) abc = d　　　d) bcd = a

15. Which one of the following is proportional quantity?　[Ctg.B.- 19]
    a) 1 : 2 = 3 : 4
    b) 2 : 5 = 6 : 15
    c) 4 : 5 = 6 : 4
    d) 3 : 5 = 9 : 25

16. If $\frac{3m + n}{n - m} = 9$ then m : n = What?　[J.B.- 19, Dj.B.- 16]
    a) 2 : 3　　　b) 3 : 2
    c) 5 : 1　　　d) 1 : 5

17. If a : b = 4 : 5 and b : c = 2 : 3 then a : b : c = What?　[S.B.- 19]

a) 20 : 25 : 15   b) 4 : 10 : 3

c) 8 : 10 : 6   d) 8 : 10 : 15

18. If the ratio of two number is 5 : 6 and their L.C.M is 150 then what is the H.C.F?   [B.B.- 19]

   a) 5   b) 6

   c) 11   d) 30

19. If a, b, c is ordered proportional then –   [B.B.- 19]

   i. $b^2 = ac$

   ii. $b = \frac{a + c}{2}$

   iii. $\frac{a + b}{b} = \frac{b + c}{c}$

   Which one of the following is correct?

   a) i and ii   b) i and iii

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

20. If the ratio of two number is 5 : 4 and their L.C.M. is 120 then what is H.C.F?   [D.B.- 17]

   a) 4   b) 5

   c) 6   d) 9

21. In right angled triangle if the ratio of two angles are 3 : 2 other than right angle which one of the following is correct?   [Dj.B.- 17]

   a) $55°, 35°$ b) $54°, 36°$

   c) $50°, 40°$ d) $45°, 45°$

22. If a : b = 3 : 4 then 2a : 4b = What?   [Ctg.B.- 17]

   a) 3 : 8   b) 6 : 8

   c) 8 : 3   d) 12 : 16

23. A thing is sold at the loss of 20% then what is the ratio of buying and selling cost?   [S.B.- 17]

   a) 4 : 5   b) 5 : 4

   c) 5 : 6   d) 6 : 5

24. If the ratio of two numbers is 3 : 5 and their L.C.M is 75 then what is H.C.F of the numbers?   [J.B.- 17]

   a) 1   b) 3

   c) 5   d) 15

Answer to the questions no. (25 – 26) according to the information below:
The ratio of two number is 3 : 4 and their H.C.F is 4.

25. What is the sum of square of the two numbers?   [C.B.- 17]

   a) 25   b) 28

   c) 49   d) 400

26. What is the L.C.M of two numbers?   [C.B.- 17]

   a) 28   b) 48

   c) 72   d) 96

Answer to the questions no. (27 – 28) according to the information below:
The ratio of the angles of a triangle is 1 : 1 : 2.

27. What is the value of the largest angle?   [B.B.- 17]

   a) $60°$ b) $90°$

   c) $100°$ d) $180°$

28. The triangle is —   [B.B.- 17]

   a) Equilateral

   b) Isosceles

   c) Right angled

   d) Isosceles right angled

29. If 5 : 7 :: x : 14 then what is the value of x?   [Ctg.B.- 16]

   a) 19.6   b) 14

   c) 10   d) 2.5

30. In the sugarcane juice the ratio of sugar and water is 3 : 7 then what is the amount of sugar in it? [Ctg.B.- 16]

   a) 70%   b) 42.86%

   c) 40%   d) 30%

31. 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) $b^2 = a^2 c$

32. 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

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

   a) 10   b) 12

   c) 14   d) 16