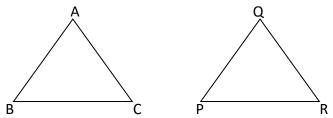**St. Thomas School, Indirapuram**
Worksheet for Final Exams 2020
Class – 7 Mathematics

1) Successor of predecessor of – 21 is _____

2) Area of concentric circles if R>r, is given by:

   i) $\frac{\pi}{2}(r^2 - R^2)$ ii) $\pi(r^2 - R^2)$ iii) $\pi(R^2 - r^2)$ iv) $2\pi(R - r)$

3) Amount charged on borrowed money is _____.

4) What is called a combination of constants and variables connected by the signs of mathematical operations?

5) Find the product with suitable properties for the following:

   i) 16 X (- 34) + (- 34) X (- 18)   ii) 32 X – 31 + 32

6) Construct Δ PQR if PQ = 5 cm, ∠PQR = 105^0 and ∠QRP = 40^0.

7) The simple interest on a certain sum at 5% per annum for 3 years and 4 years differ by Rs 82. Find the sum.

8) Radhika borrowed Rs 12000 from her friends. Out of which Rs 4000 were borrowed at 18 % p.a. and remaining at the rate of 15 % p.a. What is the total interest paid by her after 3 years?

9) Two cross roads, each of width 10 m, cut at right angles through the centre of a rectangular park of length 700 m and breadth 300 m and parallel to its sides. Find the area of the roads. Also find the area of the park excluding cross roads. Give the answer in hectares.

10) A garden is 90 m long and 75 m broad. A path 5 m wide is to be built outside and around it. Find the area of the path. Also find the area of the garden in hectare.

11) In the given figure, Δ BAC ≅ Δ QRP, by SAS criterion of congruence. Find the values of x and y. If ∠ A = $(2x + 15)^0$, ∠ R = $(5x - 60)^0$, BA = (3x + 10) cm and QR = (5y + 15) cm

12) Find the ratio of each of the following in simplest form:
a) Rs 5 to 50 paise
b) 18 m to 36 cm

13) Find the unknown y so that both ratios are equivalent:
a) y:8 : : 3:12
b) 24: 36:: y: 9

14) Fill in the blanks
i) Sum of integer and its additive inverse is _____
ii) Sum of -22 and -44 is _____
iii) -36 ÷ (_____)=-9
iv) _____ is absolute value of -998

15) In standard form, the number 72105.4 is written as 7.21054×10^n, where n is equal to
(a) 2   (b) 3   (c) 4   (d) 5

16) Simplify and express each of the following in exponential form.

(a) $\left[\left(\dfrac{3}{7}\right)^4 \times \left(\dfrac{3}{7}\right)^5\right] \div \left(\dfrac{3}{7}\right)^7$

(b) $\left[\left(\dfrac{7}{11}\right)^5 \div \left(\dfrac{7}{11}\right)^2\right] \times \left(\dfrac{7}{11}\right)^2$

(c) $(3^7 \div 3^5)^4$

(d) $\left(\dfrac{a^6}{a^4}\right) \times a^5 \times a^0$

(e) $\left[\left(\dfrac{3}{5}\right)^3 \times \left(\dfrac{3}{5}\right)^8\right] \div \left[\left(\dfrac{3}{5}\right)^2 \times \left(\dfrac{3}{5}\right)^4\right]$

(f) $(5^{15} \div 5^{10}) \times 5^5$

17) A batsman scored the following number of runs in six innings:
36, 35, 50, 46, 60, 55
Calculate the mean runs scored by him in an inning.

18) Form algebraic expressions for the following:
a) 5 is added to the product of x and y.
b) 3 subtracted from the sum of x and y.

19) Evaluate the following expressions when p = 2 and q = 3
a) 3p – 2q
b) 4p + 2q

20) Add the following:
a) 3ab, 2b, 4ba, 3a, 5a, b
b) x + 12 and 7x – 8