M. Prakash Institute **30 Jan 2022**

Entrance Test for VII std students (going to 8th std) **7 - 8 pm**

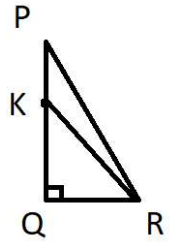
1. What will be the digit in hundreds place if 11 numbers in series $3, 33, 333, 3333, \cdots$ are added?

2. Find the value of $\dfrac{0.36 \times 0.27 \times 0.001}{0.06 \times 0.03 \times 0.1 \times 0.2} =$

3. $x\%$ of $y\%$ of $z\%$ of $8000 = 40\%$ of $y\%$ of z. Find $x\%$ of 1800.

4. $\sqrt{200}$ lies between consecutive natural numbers m and $m+1$. $\sqrt{300}$ lies between consecutive natural numbers n and $n+1$. $\sqrt{500}$ lies between consecutive natural numbers k and $k+1$. Find $m+n+k$.

5. In $\triangle PQR, \angle Q = 90°$. $PQ = 12, PR = 13$. K is a point on side PQ such that $PK : KQ = 1 : 5$. Find KR^2.



6. Reena's age to Teena's age is 7 : 5. Ratio of Teena's age to Seena's age is 2 : 3. Sum of ages of all three girls is 39 . Find Teena's age.

7. How many cubes with side 2 can be prepared by melting an aluminium cube with side 8?

8. $\frac{2}{3}\sqrt{576} + \frac{3}{4}\sqrt{784} + \frac{2}{5}\sqrt{625} =$

9. Two positive numbers a and b are such that $a : b = 3 : 4$. $a^2 + b^2 = 100$. Find $a + b$.

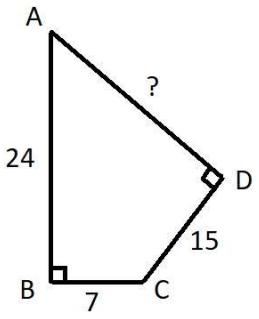
10. On real number line distance between points with coordinates $\frac{10}{3}$ and $-\frac{18}{7}$ is D_1 and distance between points with coordinates $-\frac{5}{31}$ and $\frac{11}{62}$ is D_2. Find $D_1 D_2$.

11. B has money equal to $\frac{2}{5}^{th}$ of A. C has money equal to $\frac{7}{9}^{th}$ of B's. In all, they have 385 Rs. How much money does C have?

12. Find the value of $\dfrac{1+k}{1-k} + \dfrac{2k+3}{2k-3}$ if $k = \dfrac{4}{3}$.

13. A is cycling at the speed of 10 km/hr. B is cycling at the speed of 8 km/hr. Both start moving simultaneously from two places 1 km apart in the same direction. How far (in kms) will A have cycled before he overtakes B.

14. $\square ABCD$ is such that $\angle ABC = \angle ADC = 90^\circ$
$AB = 24,\ BC = 7, CD = 15$. Find AD.

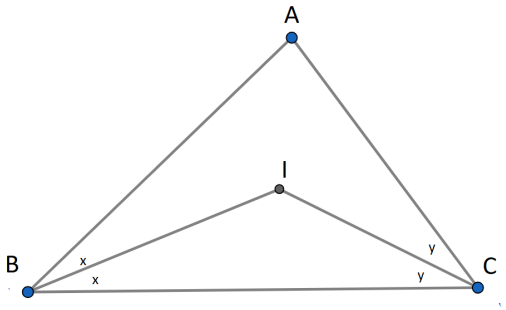


15. Which of the following numbers is greater than $\frac{5}{7}$ but smaller that $\frac{11}{14}$.
(A) $\frac{6}{7}$ (B) $\frac{16}{21}$ (C) $\frac{4}{7}$ (D) $\frac{19}{21}$.
Report 10 if answer is A, 20 if answer is B, 30 if answer is C, 40 if answer is D.

16. If 30 workers finish a job in 56 days, how many more workers should be employed to finish the same job in 24 days?

17. Sindhu must score 40% marks to pass an examination. She gets 295 marks which is 35 marks more than passing marks. What are the maximum marks in the examination?

18. As shown in figure $\overline{BI}$ and $\overline{CI}$ are internal angle bisectors of $\angle B$ and $\angle C$ respectively. If m$\angle BIC = 115$ degrees then find m$\angle BAC$ in degrees.



19. Sum of the three consecutive even natural numbers is 2022. Find the smallest amongst them.

20. Meaning of a^b is a multiplied to a, b times. For example $a^4 = a \times a \times a \times a$. If $93 = 3^x + 3^y + 3^z$ where x, y, z are natural numbers, find $x + y + z$.

Answer Key

Q.No.	1	2	3	4	5	6	7	8	9	10
Ans	0	2.7	9	53	125	10	64	47	14	2
Q.No.	11	12	13	14	15	16	17	18	19	20
Ans	70	-24	5	20	20	40	650	50	672	7