INDIAN SCHOOL AL WADI AL KABIR
Department: Mathematics
Class X   **Summer Holiday Homework (2022 – 23)**

Date of submission: 10-08-22

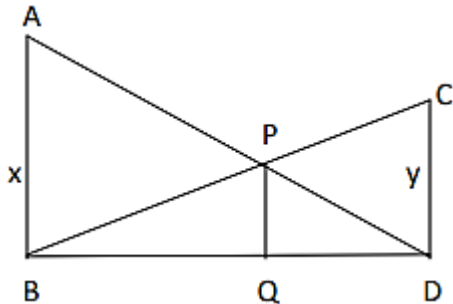|	Questions of 1 mark each						

Q.1. In Δ DEW, AB ∥ EW. If AD = 4 cm, DE = 12 cm and DW = 24 cm, then find the value of DB.

A	8cm	B	12cm	C	6cm	D	16cm

Q.2. For what value of k, the pair of linear equations 3x + y = 3 and 6x + ky = 8 does not have a solution?

A	3	B	2	C	1	D	-2

Q.3. After how many decimal places will the decimal representation of the rational number $\dfrac{229}{2^2 \times 5^7}$ terminate?

Q.4. If α and β are zeroes of the polynomial p (x) = x^2 – 5x + 6, then find the value of $\alpha + \beta$ - 3 $\alpha\beta$.

Questions of 2 marks each

Q.5. If one zero of a polynomial $3x^2$ – 8x + 2k + 1 is seven times the other, find the value of k.

Q.6. A vertical stick 12m long casts a shadow 8m long on the ground. At the same time a tower casts the shadow 40m long on the ground. Determine the height of the tower.

Q.7. Find the HCF of 456 and 120 by prime factorization method and hence find their LCM.

Q.8. Given Δ ABC ∼ Δ DEF. If AB = 4cm, BC = 3.5cm, AC = 2.5cm and DF = 7.5cm, then find the perimeter of Δ DEF.

Questions of 3 marks each

Q.9. Given that $\sqrt{5}$ is irrational, prove that $2\sqrt{5}$ – 3 is an irrational number.

Q.10. Solve for x and y: $\dfrac{x+1}{2} - \dfrac{y+4}{11} = 2$; $\dfrac{x+3}{2} + \dfrac{2y+3}{17} = 5$

Q.11.	Find the quadratic polynomial whose zeroes are in the ratio 2: 3 and their sum is 15.
Q.12.	In ΔABC, D and E are points on AC and BC respectively such that DE ‖ AB. If AD = 2x, BE = 2x – 1, CD = x + 1 and CE = x – 1, then find the value of x.

Question of 4 marks each

Q.13.	Draw the graphs of the pair of linear equations x – y + 2 = 0 and 4x – y – 4 = 0. Calculate the area of the triangle formed by the lines so drawn and the x – axis.
Q.14.	In fig, AB‖PQ‖CD, AB = x units, CD = y units and PQ = z units. Prove that $\frac{1}{x} + \frac{1}{y} = \frac{1}{z}$. A C P x y B Q D
Q.15.	**Case Study Based** Indian Army is the third biggest military contingent in the World next to USA and China. However, there are many firsts that make Indian army stand out in the world, making us all Indians very proud. On a Republic day, the Parade of the following two groups were planned: (a) First group of Army contingent of 624 members behind an army band of 32 members. (b) Second group of CRPF troops with 468 soldiers behind the 228 members of bikers. These two groups are to march in the same number of columns. This sequence of soldiers is followed by different states which are showing the culture of the respective states.

(i) What is the maximum number of columns in which the army troop can march?

(ii) What is the maximum number of columns in which the CRPF troop can march?

(iii) What is the maximum number of columns in which total army troop and CRPF troop together can march past?

ANSWERS

Q.1	A	Q.2	B	Q.3	7	Q.4	-13
Q.5	$k = \dfrac{2}{3}$	Q.6	60m	Q.7	HCF = 4, LCM = 13680	Q.8	30cm
Q.10	x = 5, y = 7	Q.11	$x^2 - 15x + 54$	Q.12	$x = \dfrac{1}{3}$	Q.13	6 sq.units

Q.15.	(i) 16 (ii) 12 (iii) 4