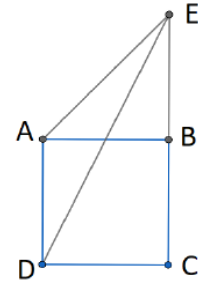**Q.1.** Sum of five consecutive even natural numbers is 280 . Find the largest number.

Q.2. How many times should 2022 be subtracted from 161761 to get remainder 2023 ?

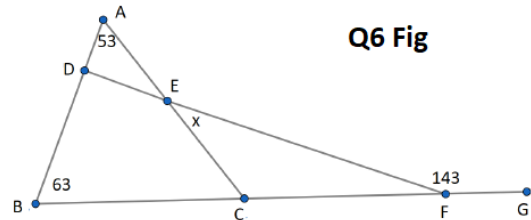**Q.3.** The number of whole numbers between $\sqrt{3}$ and $\sqrt{290}$ is

Q.4. $ABCD$ is a square. ABE is isoceles triangle external to square with $AB = BE$. If area of $\triangle ADE$ is 18 , find area of $\square ADCE$.

Q.5. Four points P, Q, R, S are on the line in that order.

If $PQ : QR = 2 : 3, QR : RS = 4 : 3$, then $PQ : QS = a : b$. Find $a + b$. Note a, b are coprimes. (i.e. they do not have any common factor.)

Q.6. Find x in following figure.

Q6 Fig

Q.7. The ratio of the present ages of a mother and her daughter is 5:1. After 10 years the ratio of their ages will be $5 : 2$. Find the mother's present age.

Q.8. If $BC = 10, CD = 16$ and distance AD is 26 . Find AB

Q.9. $\frac{1}{3}$ of the plot was bought by $A \cdot \frac{2}{5}$ of the remaining was bought by $B.\frac{1}{2}$ of remaining was baught by C and the remaining was bought by D. If D gets 19 acres, what is the size in acres did A and B together got?.
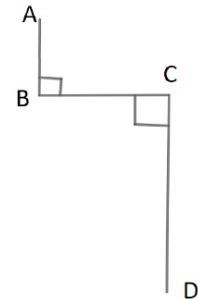
Q.10. Area of circle is 50% of rectangle. Area of Square is 40% of circle. Area of triangle is 20% of square. Then area of triangle is what percentage of rectangle?
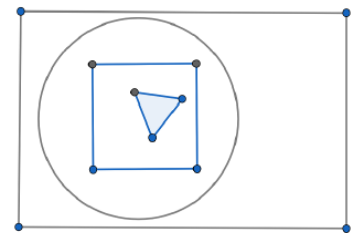
Q.11. Fresh grapes have a moisture content of 80%. When left in sun to dry they loose 75% of their moistute content. Find the percentage of moisture content of dried grapes?

Q.12. If $3^{3x-2} = 9^2$, find x.

Q.13. $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} - \frac{m}{n} = 2$. If m, n are positive and have nothing in common (coprimes), find $n - m$.

Q.14. Find $\frac{1}{K}$ if

$$\frac{2}{3}(1 - 133K) + \frac{3}{4}(1 + 133K) + \frac{4}{5}(1 - 133K) = 0$$

Q.15. Instead of multiplying a given number by $\frac{3}{5}$, a student divided it by $\frac{3}{5}$. His answer was 48 more than the correct answer. Then the given number was?

Q.16. Average of all exteriors angles of nine sides convex polygon is?

Q.17. If $\frac{2}{3}th$ of a book and 5 additional pages are read, 22 pages of the book are left to be read. How many pages does the book have?

Q.18. If area of the square is 578 , then diagonal of the square has length equal to

Q.19. We define new arithmetic operation ' & ' as - a & b $= \frac{1}{a} + \frac{1}{b}$. Let $a = 4, b = 5$ and $c = 6$. Let $K = \dfrac{(a\&b)\&c}{(b\&c)}$. Find $\frac{33}{5}K$

Q.20. $\frac{1}{3}^{rd}$ of $\frac{1}{3}^{rd}$ of $\frac{1}{3}^{rd}$ of $\frac{1}{3}^{rd}$ of $\frac{1}{3}^{rd}$ of M is $\frac{1}{3}$. How much is M.

Answer Key

Q.No.	1	2	3	4	5	6	7	8	9	10
Ans	60	79	16	54	29	27	30	8	57	4
Q.No.	11	12	13	14	15	16	17	18	19	20
Ans	50	2	43	43	45	40	81	34	43	81