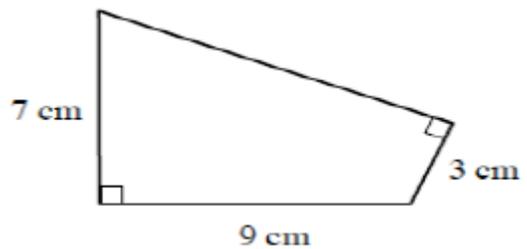1. If $xy = 8, yz = 18$ and $zx = 25$, Find xyz.

2. Find 2/3% of 630.

3. Find the area of this quadrilateral.


4. If m divided by 7 leaves a remainder of 3, while n divided by 7 leaves a remainder of 6, find the remainder when $m + n$ is divided by 7.

5. A rectangular box has dimensions 9cm, by 6 cm by 24 cm. A second rectangular box has volume one-half of the first and has a base 6cm by 4cm. What is the height of the second box?

6. Determine all pairs of numbers x and y such that $xy=x/y =x-y$ $(x{\neq}0,y{\neq}0)$.

7. Given that **ABCD** is a square of side 12. Points **E, F** and **G** are taken on **BC, CD** and **DA** respectively so that **BE : BC=1 : 4, DF : DC=1 : 3, and AG : AD=1 : 2.** Find the area of triangle **GEF**.
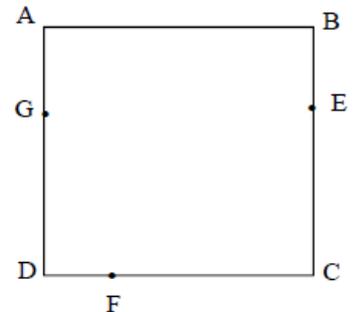
8. If the equation $x^2 - 6x + 5 = 0$ and $Ax^2 + Bx + 1 = 0$ have the same roots, find the value of $A+B$.

9. Find the number of integers between 100 and 1000 such that the sum of their digits is 10.

10. What is the largest four-digit number to be found in the arithmetic sequence 2, 6, 10, 14, 18, …

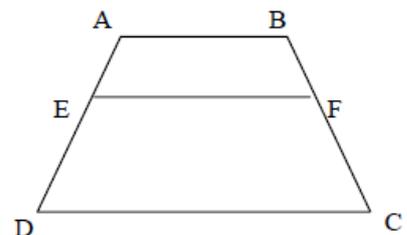11. Given that **ABCD** is a trapezium, **AB** is parallel to **CD** and is parallel to **EF**.
    AB = 3.6cm
    CD = 13.2cm
    DE = 6.6cm
    AE = 2.2cm

    Find **EF**.

12. Given that $\dfrac{x}{5x+3} = \dfrac{2}{9}$. Find the value of $2x+12$.

13. Katrina drove her car to Boston at a speed of 100 km/h (kilometers per hour). She drove back at 75 km/h. The total driving time was 7 hours. How far away was Boston?

14. Seven cucumbers and 3 tomatoes have to be packed in two boxes so that:
each box has the same amount of vegetables in each box there is at least one tomato.
In how many different ways it could be done?

15. Write down the next row to continue this sequence of equations.

$$2=1^3+1$$
$$4+6=2^3+2$$
$$8+10+12=3^3+3$$

16. The sides of the triangle are $x,\ y$ and $\sqrt{x^2 + y^2 + xy}$. Find the largest angle

17. If f(x) is a quadratic function $f(x) = ax^2 + bx + c$ such that $f(0) = 2$, $f(1) = 4$, and $f(2) = 16$, find $f(-2)$.

18. Given that $x^2 -12x + q = 0$ and x_1 and x_2 are the solutions of this equation. If $x_1 - x_2 = 2$, find q.