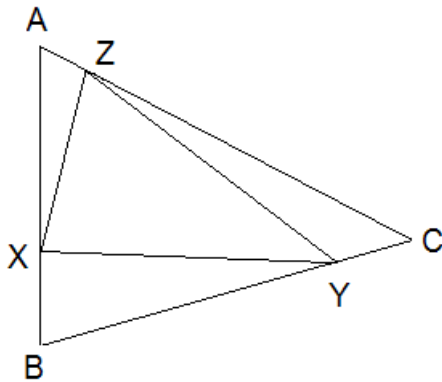


Problem 24

Triangle ABC has area 240. Points X, Y, Z lie on sides AB, BC, and CA,

respectively. Given that $\frac{AX}{BX} = 3$, $\frac{BY}{CY} = 4$, and $\frac{CZ}{AZ} = 5$, find the area of triangle XYZ.



Problem 25

Find the number of quadruples (a,b,c,d) of integers which satisfy both

$$\frac{1}{a} + \frac{1}{b} + \frac{1}{c} + \frac{1}{d} = \frac{1}{2} \quad \text{and}$$

$$2(a + b + c + d) = ab + cd + (a + b)(c + d) + 1.$$