Using division theorem:

$$(\forall x \in Q)(\exists d \in Q)[x + (x+1) + (x+2) + (x+3) + (x+4) = dq + r]$$

Quotient q and reminder r are given - $q = 5, r = 0$.

$$\begin{aligned} x + (x+1) + (x+2) + (x+3) + (x+4) &= 5d \\ 5x + 10 &= 5d \qquad \text{(By algebra)} \\ 5 * (x+2) &= 5d \\ x + 2 &= d \end{aligned}$$

Therefore for a sum of 5 consecutive integers divisor is equal to a third element. QED.