

Problem 5. Prove that for *all* positive integers n and *all* real numbers x ,

$$\left\lfloor \frac{\lfloor nx \rfloor}{n} \right\rfloor = \lfloor x \rfloor.$$

(If a is a real number, then $\lfloor a \rfloor$ is equal to the greatest integer less than or equal to x . For example,

$$\lfloor 3.14 \rfloor = 3, \quad \lfloor 4 \rfloor = 4, \quad \lfloor -3.14 \rfloor = -4.)$$

Solutions due by 12:00 noon, Monday, February 17.