

Answer on Question #54287 – Math – Algebra

Question

Cole is packing a crate with boxes of vegetables that weigh 3 pounds each. The empty crate weighs 2 pounds. He wants the total weight of the crate with the boxes to be less than 26 pounds. If x represents the number of boxes that Cole can pack in the crate, write an inequality can be used to find the value of x

Solution

Assume that

one box weighs 3 pounds,

the empty crate weighs 2 pounds,

x represents the number of boxes that Cole can pack in the crate.

The sentence “the total weight of the crate with the boxes is less than 26 pounds”

is expressed by the following inequality:

$$2 + 3 * x < 26.$$

Thus, the answer is $3x + 2 < 26$.

If we subtract 2 from both sides of the equality, then $3 * x < 26 - 2$, i. e. , $3 * x < 24$.

Divide both sides by 3 and obtain $3 * x / 3 < 24/3$, i. e., $x < 8$.

Answer: $3x + 2 < 26$.