Solving Problems Involving Linear Inequalities in Two Variables

Total points = 25

1. Solution

Given: $250 =$ cost of a kilo of beef ✓
Let: $b =$ cost of a kilo of beef ✓
$f =$ cost of a kilo of fish ✓
Find: maximum cost of a kilo of fish ✓
Inequality: $2b+3f < 700$ ✓

Original inequality	$\mathbf{2b+3f<700}$ ✓
Substitute $b=250$	$2(250)+3f<700$ ✓
Simplify	$500+3f<700$ ✓
Use Subtraction Prop.	$500-500+3f<700-500$ ✓
Simplify	$3f<200$ ✓
Use Division Prop.	$\frac{3f}{3}<\frac{200}{3}$ ✓
Simplify	$f<66.67$ ✓

Therefore, the maximum cost of a kilo of fish to the nearest pesos is Php 67. ✓

2. Solution

Given: $32 =$ Connie's score ✓
Let: $c =$ Connie's score ✓
$m =$ Minnie's score ✓
Find: possible score of Minnie ✓
Inequality: $c-m \leq 6$ ✓

Original inequality	$\mathbf{c-m\leq 6}$ ✓
Substitute $c=32$	$32-m\leq 6$ ✓
Use Subtraction Prop.	$32-32-m\leq 6-32$ ✓
Simplify	$-m\leq -26$ ✓
Use Multiplication Prop.	$-1(-m)\leq -1(-26)$ ✓
Simplify	$m\geq 26$ ✓

Therefore, the possible score of Minnie is greater than or equal to 26. ✓

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