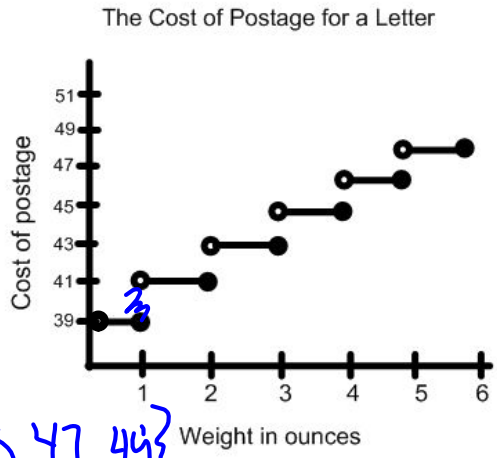
Do Now: Based off of the given graph, find the

a. domain

$[0, 6]$

b. range (Hint: Descrete!)



$y = \{39, 41, 43, 45, 47, 49\}$

Jan 2-5:36 PM

Analysis of Functions & Restrictions

Important things to look out for:

- Determine if it represents a discrete or continuous function
  - This tells you how to write domain & range!

x-value → y-values

- Discrete use list form and "{ }"

- Continuous use interval notation or { "inequality"}

Jan 2-5:36 PM

Anthropologists use the length of certain bones of human skeleton to estimate the height of the living person. One of these bones is the femur. To estimate the height in centimeters of a female with a femur length of x, the function **h(x) = 61.41 + 2.32x** can be used.

a. Find h(46) $= 61.41 + 2.32(46)$

$h(46) = 168.13$

b. What does this mean?

Female height = 168.13 cm

Jan 2-5:36 PM

Andrea is selling candles as a fundraiser. She spends some money on supplies for making the candles and intends to sell the candles all for $10 each. The function is modeled by C(x) = 10x - 50.

a. What does x represent?

the # of candles sold

b. What does C(x) represent?

the amount of money gained ↔ earned profit / revenue

c. What does - 50 represent?

Supply cost ($)

Jan 2-5:36 PM

Andrea is selling candles as a fund-raiser. She spends some money on supplies for making the candles and intends to sell the candles all for $10 each. The function is modeled by C(x) = 10x - 50.

d. What is the domain of the function in words?

{0, 1, 2, 3, 4, 5, ...} ALL whole Numbers

e. What is the range of the function in words?

{-50, -40, -30, -20, ...}

Multiples of 10 greater than or equal to -50

Jan 2-5:36 PM

Hunter is shopping for pencils. He has $5.00 from his allowance and he finds the pencils that he wants to buy for $0.65 each.

★What is a reasonable domain for this function?

a. all real numbers → # of pencils

b. $x \leq 8$

c. $0 \leq x \leq 7.69$

d. {0, 1, 2, 3, 4, 5, 6, 7}

★What is a reasonable range for this function?

{0, .65, 1.30, 1.95, 2.60, 3.25, 3.90, 4.55}

Jan 2-5:36 PM

An object is fired straight up from the top of 100-foot tower at a velocity of 40 feet per second. The height, h(t), of an object t seconds after firing is given by
$h(t) = -16t^2 + 40t + 100$.

What is the reasonable range for the given situation?

a. $h \leq 125$

b. $0 \leq h \leq 125$

c. all real numbers

d. ~~$0 \leq t \leq 125$~~

What is the reasonable domain for the given situation?

Jan 2-5:36 PM