

ACTIVITY 5B: PLOTTING POINTS ON THE “BONE MASS ACROSS A LIFE SPAN” GRAPH

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The fracture threshold is a theoretical level of total body calcium bone mass. Above this level, persons are less likely to break their bones. Below this level, persons are more likely to break their bones because their bones are weaker.

Plot points on the graph to determine how age and bone mass are related to risk of fracture as indicated by the “fracture threshold.” The coordinates are written in pairs. The first number of the pair is from the “x” axis, or the age of the patient. The second number in the pair is from the “y” axis and represents “grams of calcium.”

1. A 64-year old patient of Dr. Tu has a calcium mass of 863 grams (64, 863). Plot these coordinates on the graph provided. Is the point above or below the “fracture threshold”? Is the “fracture threshold” even a factor to consider? If this patient fell within the norms for the patient’s gender, would the patient most likely be male or female?

2. Consider the following numbers as those belonging to more of Dr. Tu’s patients. Plot the following points and indicate, by circling the correct letter, whether they are above (A) or below (B) the fracture threshold; or if the fracture threshold is not a factor (N); and tell whether they are male (M) or female (F).
a) (92, 490) A B N M F h) (5, 129) A B N M F o) (65,525) A B N M F
b) (16, 437) A B N M F i) (82, 550) A B N M F p) (75,483) A B N M F
c) (21, 972) A B N M F j) (24, 925) A B N M F q) (87,212) A B N M F
d) (41, 750) A B N M F k) (70, 625) A B N M F r) (38,826) A B N M F
e) (70, 300) A B N M F l) (46, 575) A B N M F s) (14,440) A B N M F
f) (52, 550) A B N M F m) (11,305) A B N M F t) (60,716) A B N M F
g) (35, 727) A B N M F n) (18,650) A B N M F

Respond to these thought questions on the back of this paper:

3. If patient (g) were a male, what advice would you give to him?
4. Why might the likelihood of fracture be of more concern to patient (i) if he were male rather than female?

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