1. The recommended daily calcium intake for a 20-year-old is 1,000 milligrams (mg). One cup of milk contains 299 mg of calcium and one cup of juice contains 261 mg of calcium. Which of the following inequalities represents the possible number of cups of milk m and cups of juice j a 20-year-old could drink in a day to meet or exceed the recommended daily calcium intake from these drinks alone?

(A) $299m + 261j \geq 1{,}000$

(B) $299m + 261j > 1{,}000$

(C) $\frac{299}{m} + \frac{261}{j} \geq 1{,}000$

(D) $\frac{299}{m} + \frac{261}{j} > 1{,}000$

ALG 2 BELLWORK 10-8-15 THUR

2. A research assistant randomly selected 75 undergraduate students from the list of all students enrolled in the psychology-degree program at a large university. She asked each of the 75 students, "How many minutes per day do you typically spend reading?" The mean reading time in the sample was 89 minutes, and the margin of error for this estimate was 4.28 minutes. Another research assistant intends to replicate the survey and will attempt to get a smaller margin of error. Which of the following samples will most likely result in a smaller margin of error for the estimated mean time students in the psychology-degree program read per day?

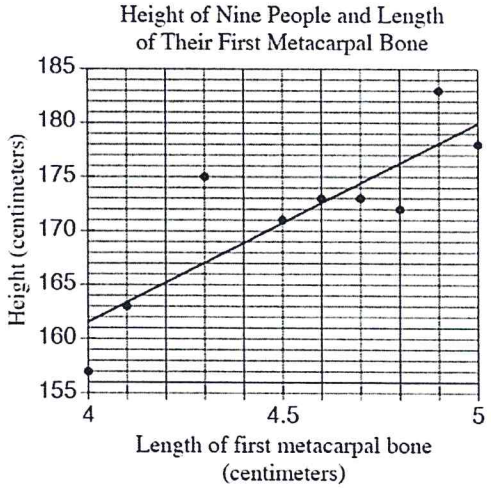
(A) 40 randomly selected undergraduate psychology-degree program students

(B) 40 randomly selected undergraduate students from all degree programs at the college

(C) 300 randomly selected undergraduate psychology-degree program students

(D) 300 randomly selected undergraduate students from all degree programs at the college

3. The first metacarpal bone is located in the wrist. The scatterplot below shows the relationship between the length of the first metacarpal bone and height for 9 people. The line of best fit is also shown. How many of the nine people have an actual height that differs by more than 3 centimeters from the height predicted by the line of best fit?



4. Aaron is staying at a hotel that charges $99.95 per night plus tax for a room. A tax of 8% is applied to the room rate, and an additional onetime untaxed fee of $5.00 is charged by the hotel. Which of the following represents Aaron's total charge, in dollars, for staying x nights?

(A) $(99.5 + 0.08x) + 5$

(B) $1.08(99.95x) + 5$

(C) $1.08(99.95x + 5)$

(D) $1.08(99.95 + 5)x$

BELLWORK ANSWERS

(1) • "meet or exceed" means $\geq$,
this eliminates B & D

• if there is 299mg of Ca in each cup
then ther is 299m mg of Ca
in m cups. This eliminates C

Answers is (A)

(2) • To get a smaller margin of error
the sample size should be INCREASED,
this eliminates A & B

• The question specifies "mean time students
in the psychology-degree program", this
eliminates D

Answer is (C)

(3) "Differ by more than 3cm" means more than
3cm taller or more than 3cm shorter.
therefore, any point farther than 3cm
above or below the line is what you are
looking for

Answer is 4

(4) Since the $5 charge is not taxed and
is "one-time" it should be added on separately.
this means C & D can be eliminated.
in A .08x represents 8% of the # of days
and this doesn't make sense when you should
be talking 8% of the cost (i.e. $99.50), so
eliminate A.

Answer is (B)