No Bones About It

Name: _____

Period: _____

	Student's name	Male or female	Height	Shoulder to elbow	elbow and middle finger	bottom of the kneecap to ankle	Length of right foot	Hip to knee	Length of pinky finger	
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										
16.										
17.										
18.										
19.										
20.										
21.										
22.										
23.										
24.										
25.										
26.										
27.										
28.										
29.										
30.										
31.										
32.										
33.										
34.										
35.										
	Mean (average)	******								

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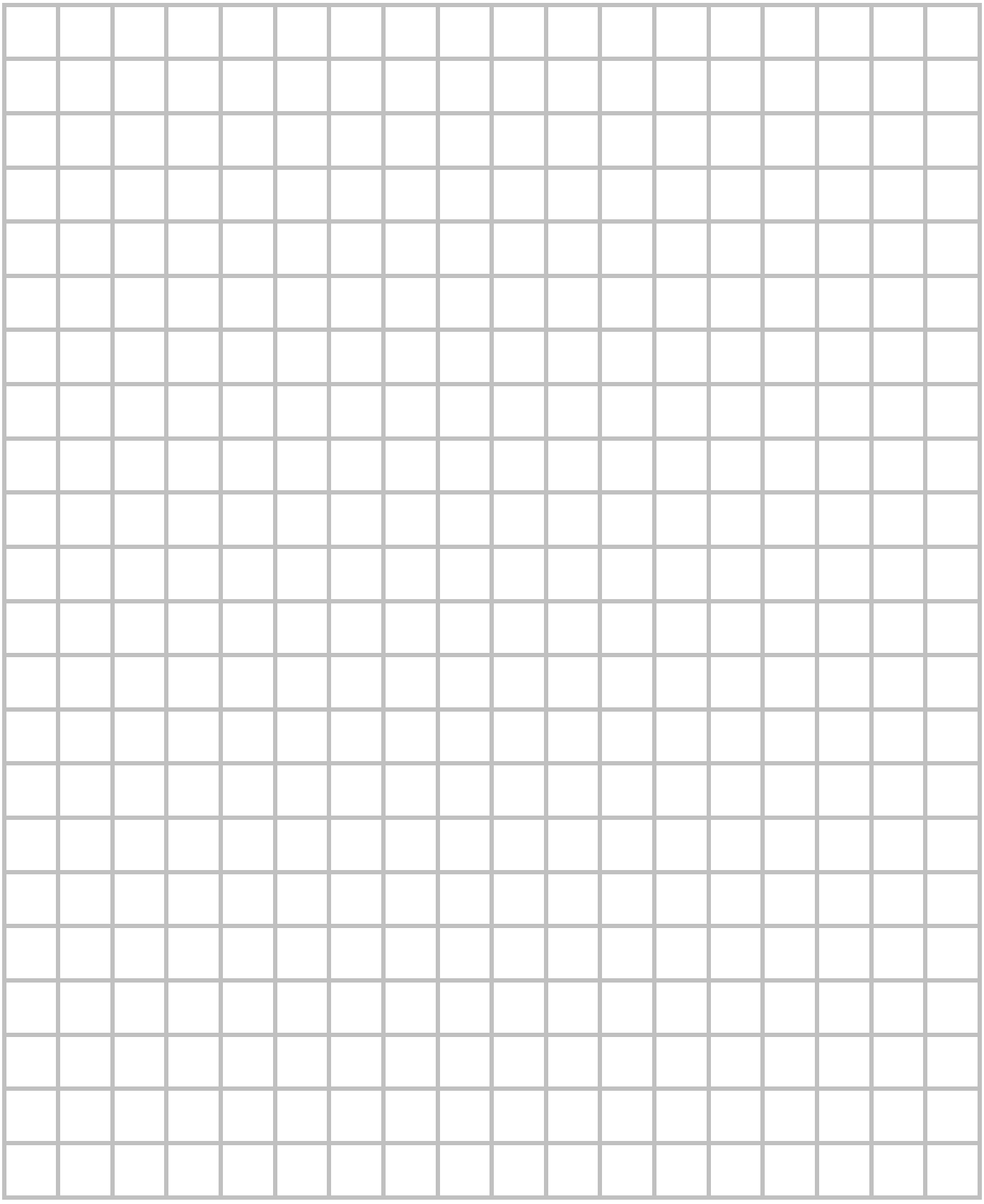
Graph the assigned body part. Be sure to label the x and y axis in terms of the problem and graph males, females, and the mean point in different colors.



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1. Define the x-values in terms of the problem.

2. Define the y-values in terms of the problem.

3. Find the equation of the line of “best guess” by having it pass through the mean of the x-value and the mean of the y-value. Be sure that the line fits the data trend. Show all work.

4. What does the slope ratio tell you about height?

5. Explain, why your line is a good fit for the data?

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Body Measure	Correlation r-value	regression line: $y = mx + b$
Distance from shoulder to elbow		
Distance between elbow and tip of middle finger		
Distance from the bottom of the kneecap to ankle		
Length of right foot		
Distance from hip to the top of the knee		
Length of pinky finger		

1. Compare the equations of your line of "best guess" and the regression line. Be sure to describe the criteria you used to compare.
2. Which body measurement appears to be the best predictor of height? How do you know?
3. LeBron James was 6'7" at age 16, find the length of his pinky finger and length of right foot.
4. Measure the body part that was the best predictor of a person who is not in your class and record their actual height. Using the equation for that body measurement, what should their height be based on the linear regression model developed in class? Show your work.
5. What is their actual height? Did your height predictor work? If it did not, why might this be?
6. If we were to look at the graph of only male data, would the correlation (r-value) change and if so how? Explain.
7. Do you think our regression line will hold for people at any age? (i.e.: a toddler and senior citizen) Be sure to justify your answer.