

Boise Cascade Versa-lam Beams

Box and label answers, show all work.



7 x 16 versa-lam beam lengths and weights				
Length (x)	12 feet	24 feet	31 feet	44 feet
Weight (y)	294 lbs	778 lbs	992 lbs	1226 lbs

- Use the 12 and 24 foot boards to find an equation relating length to weight. What does this equation predict for the weight of a 52 foot board?

- Use the 31 and 44 foot boards to find an equation relating length to weight. What does this equation predict for the weight of a 52 foot board?

- Use all four boards to find r & \hat{y} by hand. What does this equation predict for the weight of a 52 foot board?
 Note: Use your calculator to first find $S_x, S_y, \bar{x}, \bar{y}$ by entering all the data into L1 and L2. Then use the table below to help find r . From there you can use your formulas.

x	y	$\left(\frac{x - \bar{x}}{s_x}\right)$	$\left(\frac{y - \bar{y}}{s_y}\right)$	$\left(\frac{x - \bar{x}}{s_x}\right)\left(\frac{y - \bar{y}}{s_y}\right)$
12	294			
24	778			
31	992			
44	1226			
Total:				

4. Use the regression function in your calculator to find a linear model and r-value for the relationship between length (x) and weight (y). (This amounts to checking your work for question 3)

Linear equation =

r-value =

5. Explain the meaning of the slope you found in question 4.

*** Note: Design weight for this beam is 28.8 lbs/ft according to Boise Cascade specifications.