

New Jersey City University
Intermediate Algebra
Peer Led Team Learning Workshop 8B
Applications: Rational Equations

Section 6.5

1. The manager of a mattress store knows that she should stock five queen-sized mattresses for every eleven double-sized mattresses. She has space to stack 448 mattresses in all. How many of each type should she stack?

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2. The total weight, S , that a beam can support is given in pounds by $S = \frac{182.6wh^2}{l}$, where w is the width of the beam in inches, h is its height in inches, and l is the length of the beam in feet.
 - a. A beam over the doorway in an interior wall of a house must support 1600 pounds. If the beam is 4 inches wide and 9 inches high, how long must it be?
 - b. Write a general expression for l in terms of S , w , and h .
 - c. A 55-foot long beam must support a weight of 2000 pounds. If the width of the beam is 6 inches, how high must it be?
 - d. Write a general expression for h in terms of S , w , and l .