

Writing Equations and Inequalities

1. Your school is replacing a section of old lockers. When the old lockers are removed, there is a space that is 165 inches long. Each new locker has a width of 11 inches. Write an equation to represent the total number of lockers you can fit in the space. (Assume there are no gaps between the lockers and the width of the locker walls are factored into the 11 inches.)

2. You buy a storage case that holds 150 collectible die-cast cars. You have 132 die-cast cars.
- Write an inequality that represents how many more cars you can buy and still have no more cars than the case will hold.
 - You buy 24 cars. Will they all fit in the case?

3. You are buying a new printer and a new scanner for your computer, and you cannot spend over \$150. The printer you want costs \$80. Write an inequality that describes the most that you can spend on the scanner and still stay within your budget. If you buy a scanner that costs \$75, will you remain within your budget?

4. You and three of your friends are going to race go-carts. The last time you went, you had a coupon for \$3 off each admission and paid \$48 for the 4 admissions. What was the total price without the coupon? You pay the regular price this time and share it equally. How much does each person pay?

5. You are making beaded bracelets for your friends. You want to use 30 beads for each bracelet and want to use no more than 145 beads. Write an inequality that models this situation. Can you make 4 bracelets?

6. When building a staircase, you need to be concerned with the height of the riser and the depth of the tread so that people can go up and down the stairs comfortably. One rule of thumb used to determine proper riser height and tread depth is that the sum of the tread depth in inches and twice the riser height in inches should equal 26 inches.
- Write an equation that models this situation.

- The riser height of a set of steps is 5 inches. What should the depth be?

7. You are saving money to buy a \$200 video game system. You earn \$20 a week for doing chores around the house. You get \$35 from a relative on your birthday.
 - a. How many whole weeks will it take for you to have enough money to buy the system?
 - b. You are charged 7% sales tax for the system. Will it take any longer to buy it?

8. You are creating a collage using two different types of papers. Textured paper costs \$.15 per sheet and plain paper costs \$.08 per sheet. You need a total of 12 sheets of paper without spending over \$1.50.
- Write an inequality that describes the situation. Identify and use only one variable.
 - Give two different ways you can buy the paper.

9. You and your friend collect football cards. You tell your friend, "I have three times the number of football cards as you have." Your friend replies, "You only have 80 more football cards than I have." How many football cards do each of you have?