

Read each question carefully, do exactly what it asks.

1. It costs Marcus \$2.50 for each visit to his gym, plus it costs him \$30 to join.
 - a. Write an equation to calculate how much the gym will cost him this year depending on how many visits he makes.
 - b. Write and solve an inequality to calculate how many visits he can make if he wants to spend at most \$92.50?

2. Elsa buys a house that has a patio partially completed in the backyard. To finish the patio she decides she can lay 130 bricks per day. There are 22 bricks in the patio to start with.
 - a. Write an equation that would calculate how many bricks will be on the patio depending on how many days Elsa has been working.
 - b. Write and solve an inequality to calculate how long she will need to work if she wants to have at least 1192 bricks laid.

3. Jocelyn is on a road trip with a friend. The friend has already driven 80 miles. When Jocelyn starts driving she continues at a very constant 75 mph.
 - a. Write an equation that would calculate how many miles they have driven together according to how long Jocelyn was driving.
 - b. Write and solve an inequality to calculate how long Jocelyn will need to drive to go no more than 905 miles?

4. A bank account starts with \$1550 and you withdraw (take out) \$15 a day.
 - a. Write an equation to calculate how much money remains in the account depending on how many days they have been withdrawing money.
 - b. Write and solve an inequality to calculate how long they can withdraw money if they want to keep at least \$50 in the account.

5. You pay \$20 for 1024 bytes of data on you smart phone. You pay \$.03 per byte after that. Write and solve an inequality to calculate how many bytes you can use to spend no more than \$60.

Write an inequality for each situation. Do not solve.

6. When you buy a truck it is worth \$36,000. It depreciates (loses value) by \$250 per year. You want to sell it while it is worth at least \$20,000. Write an inequality you could use to see how long you could own it.

7. You are in charge of buying the hamburger and chicken for a party. You can spend no more than \$60. The hamburger costs \$2 per pound and chicken is \$3 per pound. Write an inequality that represents the different amounts of hamburger, x , and chicken, y , that you can buy.

8. You have \$48 to spend on lawn seed. You don't have to spend all of the money. One type is a quick-growing rye grass that costs \$4 per pound, and the other type is a higher-quality seed that costs \$6 per pound. Write an inequality that represents the different amounts of \$4 seed, x , and \$6 seed, y , that you can buy.

9. Your school is sponsoring a pancake dinner to raise money for a field trip. Adult tickets cost \$5.00 and kid tickets cost \$3.50. You hope to earn at least \$1,000. Write an inequality to calculate how many adult (x), and kid (y) tickets you can sell to make at least \$1,000.

Solve each inequality.

10. $18 - 2n > 4(n - 3)$

11. $-3(m + 1) \leq 21$

12. $3(m + 4) - 5 \geq -26$

13. $14x - 8 > 12x + 2x - 8$

14. $\frac{1}{2}(2 + 4n) > 2n - 2$

15. $14x - 16 \geq 12x - 16$