Define a variable and write an inequality that represents each statement and solve.

1. The booster club raised $102 in their car wash. They want to buy $18 soccer balls for the soccer team. Write and solve an inequality to find the number of soccer balls they can buy.

They have $102 to spend - no more

x = # of soccer balls

$\frac{18x}{18} \leq \frac{102}{18}$

$x \leq 5\frac{12}{18}$

$x \leq 5\frac{2}{3}$ mathematical answer

$18\overline{)102}$ → 5, 90, 12

actual answer - we can purchase up to 5 soccer balls

2. A cab charges a flat rate of $1.50 in addition to $0.60 per mile. If Susan cannot spend more than $10, what is the furthest distance in miles she can travel in the cab?

m = # of miles

$1.50 + .6m \leq 10$

$-1.50 \quad -1.50$

$10(.6m \leq 8.5)$

$\frac{6m}{6} \leq \frac{85}{6}$

$m \leq 14\frac{1}{6}$ miles

$6\overline{)85}$ → 14, −6, 25, −24, 1

3. Keith has $500 in a savings account at the beginning of the summer. He wants to have at least $200 in the account by the end of the summer. He withdraws $25 each week for food, clothes, and movie tickets. How many weeks can Keith withdraw money from his account?

w = # of weeks

$500 - 25x \geq 200$

$-500 \quad -500$

$\frac{-25x}{-25} \geq \frac{-300}{-25}$

divided by a negative need to flip the inequality symbol

$x \leq 12$ weeks

4. A cellular phone company advertises cut-rate phone service for $9.00 a month plus $0.45 per call. If your budget allows you to spend at most $15 on phone service a month, what is the maximum number of call you can make?

c = # of calls

$9 + .45c \leq 15$

$-9 \quad -9$

$\frac{.45c}{.45} \leq \frac{6}{.45}$

$c \leq 13\frac{15}{45}$

actual answer 13 calls

$.45\overline{)600}$ → 13, −45, 150, −135, 15

essentially need to clear the decimal here

$c \leq 13\frac{1}{3}$ mathematical answer