

1-19-18

Aim: SWBAT do their best on the quiz.

HW: None

Do Now: Correct hw

Pencil and calculator

HOMEWORK: Define a variable, write an inequality, solve it, and write your answer in a sentence.

Pg. 152 # 43. You run a race in 2.5 hours. The record winning time is 1.9 hours. How many minutes can you improve by to break the record?

let $x =$ # of hours

$$\begin{array}{r} 2.5 - x < 1.9 \\ -2.5 \quad -2.5 \\ \hline -x < -0.6 \\ \quad -1 \quad -1 \\ \hline x > 0.6 \end{array}$$

$0.6 \text{ hours} = \frac{6}{10} \text{ hours} = 36 \text{ min}$
I need to improve my time by more than 36 min.

Pg. 152 # 44. The frequency f of the human singing voice is between 81 hertz and about 1100 hertz. Which statement is not true about f ?

A) $f \geq 81$

B) $f \leq 1100$

C) $81 \leq f$

D) $f \geq 1100$

$81 < f < 1100$

Pg. 157 # 47. An elevator can hold a maximum of 2000 pounds. The average weight of a person is 150 pounds. Let p be the number of people the elevator can hold.

- Write a multiplication inequality that models the situation.
- Solve the inequality.
- What does the answer tell you about the number of people who can ride in the elevator?

$$\begin{array}{r} 150p \leq 2000 \\ \hline 150 \quad 150 \\ p \leq 13\frac{1}{3} \end{array}$$

Only 13 people can ride the elevator.

Pg. 158 # 52. John has test scores of 75, 84, 88, and 77 on four of his five science tests. He wants to get at least an average of 80 on his five tests. What is the lowest score that John can get on his last test to achieve his goal?

A) 76

B) 79

C) 80

D) 81

$$\frac{75+84+88+77+x}{5} \geq 80$$

$$\cancel{5} \cdot \frac{324+x}{\cancel{5}} \geq 80 \cdot 5$$

$$\begin{array}{r} 324+x \geq 400 \\ -324 \quad -324 \\ \hline x \geq 76 \end{array}$$

John needs a 76% or higher.

Pg. 327 # 18. You have at most \$200 to spend on a health club membership. The initial fee to join is \$50. There is a monthly fee of \$32. How many months can you be a member without spending more than \$200?

let x = # of months

$$\begin{array}{r} 50 + 32x \leq 200 \\ -50 \quad -50 \\ \hline 32x \leq 150 \\ \frac{32x}{32} \leq \frac{150}{32} \\ x \leq 4 \frac{11}{16} \end{array}$$

You can be a member for 4 months without spending more than \$200.

Pg. 327 # 19. You are making craft items to sell for \$2 each. The materials cost you \$55. You want to make a profit of at least \$100. Which inequality can you use to find the number of items you will need to sell?

A) $2x - 55 \leq 100$
~~100~~

B) $2x - 55 \geq 100$

C) $2x + 55 \geq 100$

D) $2x + 55 \leq 100$

Pg. 328 # 21. A teen club has weekly dances. You can become a member of the club for \$30 a year and pay only \$4 to attend each dance. Otherwise, each dance costs \$6. How many dances do you have to attend so that becoming a member will cost less than paying the nonmember rate?

let x = # of dances

$$\begin{array}{r} 30 + 4x < 6x \\ -4x \quad -4x \\ \hline 30 < 2x \\ \frac{30}{2} < \frac{2x}{2} \\ 15 < x \end{array}$$

The membership pays off after 15 dances.