

More Practice Solving Inequalities

You must answer the following on your POD paper. All answers will be whole numbers.

- Write an inequality to describe the interval referred to in each statement, then graph the inequality on a number line.
 - To vote, a person must be at least 18 years old.
Let x represent the possible ages.
 - The frequency range of the human singing voice is between 81 hertz and 1100 hertz.
Let x represent the possible frequencies.
 - The average elevator can hold a maximum of 2000 pounds.
Let x represent the possible weight an elevator can hold.
 - A 30 second commercial during the first Super Bowl in 1967 cost \$42,000.
In 2009, advertisers paid \$2.8 million for a 30 second commercial.
Let x represent the cost of a Super Bowl commercial.
 - If you score below 56 on the Unit Test, then you need to do a revision.
Let x represent a score that requires a revision.

- Solve the following inequalities and graph each solution. Show your work.

a. $\frac{x + 17}{-4} > 10$

b. $\frac{x - 10}{9} \leq -3$

c. $\frac{x + 26}{-7} \leq -9$

- Choose one of the levels below. Solve the following inequalities and graph each solution.

Level 1:

a. $-6x + 11 \leq 47$

b. $\frac{x}{-3} - 18 > 3$

c. $4x + 39 \geq 7$

d. $\frac{x}{7} - 12 \leq -8$

e. $-5x - 22 < 13$

f. $\frac{x}{-9} + 19 > 13$

g. $3(x + 9) < 42$

h. $-8(x + 7) \leq 40$

i. $-6(x - 5) \leq -18$

j. $9x + 4 \leq 3x + 58$

k. $15x + 27 > 11x + 3$

l. $3x + 7 < 11x + 31$

Level 2:

a. $\frac{c}{6} - 9 > -17$

b. $\frac{5n + 13}{-2} \geq -24$

c. $2 < \frac{-2h + 8}{-7}$

d. $-3 \leq \frac{-4p - 15}{13}$

e. $9t - 5(t + 3) > -31$

f. $0 \geq 2m - 8(m - 6)$

g. $5y + 8 > -3(y + 16)$

h. $9a - 3(a + 9) > 4(a - 6) + 3$

i. $2d - 7(d - 5) \leq 9 - 9(d - 6)$

j. $-u - 8(u - 7) < 2(u - 11) + 2(4 - 3u)$

- Write an inequality with x on both sides whose solution is $x \geq 5$. Solve it and show each step.

- Solve and graph the solution: $-11x - (4 - 3x + 8) - 13 < -6(6x - 5) - 7(4 - 6x) - 5x$