Name _____ Algebra 1 Final Review 4

Creating Equations A-CED.3, A-CED.4

1. The formula for the volume of a right circular cylinder is $V = \pi r^2 h$. The value of h can be expressed as

(1) $\frac{V}{\pi} r^2$ (3) $\frac{\pi r^2}{V}$

(2) $\frac{V}{\pi r^2}$ (4) $V - \pi r^2$

2. If $bx - 2 = K$, then x equals

1) $\frac{K}{b} + 2$ 3) $\frac{2 - K}{b}$

2) $\frac{K - 2}{b}$ 4) $\frac{K + 2}{b}$

3. If $3ax + b = c$, then x equals

4. In the equation $A = p + prt$, t is equivalent to

5. Shoe sizes and foot length are related by the formula $S = 3F - 24$, where S represents the shoe size and F represents the length of the foot, in inches.

a Solve the formula for F.

b To the *nearest tenth of an inch,* how long is the foot of a person who wears a size $10\frac{1}{2}$ shoe?

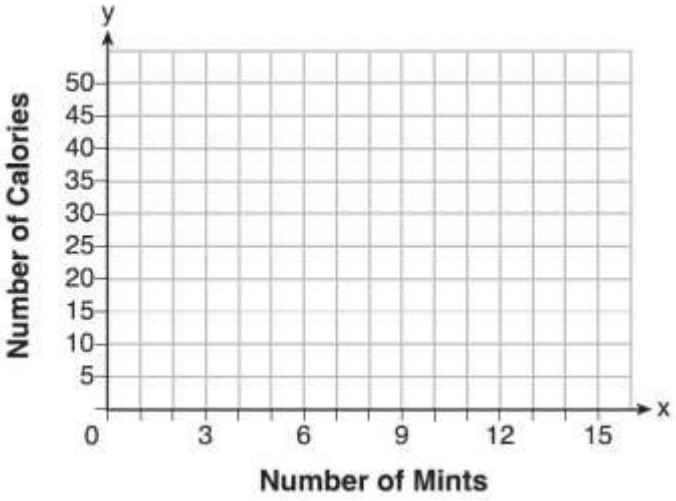
6. A high school drama club is putting on their annual theater production. There is a maximum of 800 tickets for the show. The costs of the tickets are $6 before the day of the show and $9 on the day of the show. To meet the expenses of the show, the club must sell at least $5,000 worth of tickets.

a) Write a system of inequalities that represent this situation.

b) The club sells 440 tickets before the day of the show. Is it possible to sell enough additional tickets on the day of the show to at least meet the expenses of the show? Justify your answer.

7. Max purchased a box of green tea mints. The nutrition label on the box stated that a serving of three mints contains a total of 10 Calories.

A. On the axes below, graph the function, C, where $C(x)$ represents the number of Calories in x mints.



B. Write an equation that represents $C(x)$.

C. A full box of mints contains 180 Calories. Use the equation to determine the total number of mints in the box.

8. David has two jobs. He earns $8 per hour babysitting his neighbor's children and he earns $11 per hour working at the coffee shop.

A. Write an inequality to represent the number of hours, x, babysitting and the number of hours, y, working at the coffee shop that David will need to work to earn a minimum of $200.

B. David worked 15 hours at the coffee shop. Use the inequality to find the number of full hours he must babysit to reach his goal of $200.