Algebra 1 ECA Remediation

Name **Answer Key**

Homework 5.3

1) Lea and eight of her friends went out to eat. Their total bill was $88.74. Lee is going to receive a bonus check from work for $45. She would like to treat a group of friends to dinner at this same restuarant.

A. Based on the average cost per person of the current meal, write an inequality to find the maximum number of people that she can pay for at the next dinner outing.
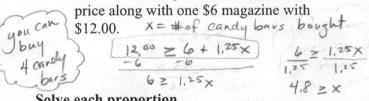
Lea + 8
Total = $88.74
Bonus $45

Average meal cost $= \dfrac{88.74}{9}$
$= 9.86$

$45 > 9.86f$ f = # of friends

B What is the maximum number of meals that Lee can pay for if she has $45 to spend and the average cost of the meals is the same as the current restuarant bill? *that she pays for*

$\dfrac{45}{9.86} > \dfrac{9.86f}{9.86}$

$4.56 > f$

Lea can pay for 4 meals at the restuarant

2) Elisa spent $9 on 4 batteries.

A. Write an inequality that can be used to determine the maximum number of batteries that Elisa can buy with $15.50.

unit price $= \dfrac{\$9}{4} = \$2.25$ per battery

$\boxed{15.50 \geq 2.25b}$

b = # of batteries bought.

B. What is the maximum number of batteries that Elisa can buy with $15.50?

$\dfrac{15.50}{2.25} \geq \dfrac{2.25b}{2.25}$

$6.89 \geq b$

Elisa can buy 6 batteries

3) You bought a magazine for $6 and 3 candy bars for $9.75.

A. Write an inequality that can be used to determine the maximum number of candy bars that can be purchased along with one $6 magazine with a total of $12.00.

1 magazine $6
+ 3 candy bars
Total = $9.75

c = price of one candy bar

$9.75 = 6 + 3c$
$\underline{-6 \quad -6}$
$3.75 = 3c$

$\dfrac{3.75}{3} = \dfrac{3c}{3}$

$\$1.25 = c$

B. What is the maximum number of candy bars that can be purchased at this same price along with one $6 magazine with $12.00.

x = # of candy bars bought

you can buy 4 candy bars

$\dfrac{12.00 \geq 6 + 1.25x}{-6 \qquad -6}$
$6 \geq 1.25x$

$\dfrac{6}{1.25} \geq \dfrac{1.25x}{1.25}$
$4.8 \geq x$

Solve each proportion.

5) $\dfrac{4-k}{12} = \dfrac{6}{4}$

$4(4-k) = 6(12)$
$16 - 4k = 72$
$\underline{-16 \qquad -16}$
$\dfrac{-4k}{-4} = \dfrac{56}{-4}$
$k = -14$

4) Mary rented a bike from Mike's Bikes. It cost $14 plus an hourly rate. It cost Mary $28.70 to rent the for 6 hours.

A. Write an inequality to find the maximum number of hours that Mary can rent the bike for if she has $55 to spend.

r = hourly rate
6 hours
$+14 \quad \$28.70$ Total

$28.70 = 6r + 14$
$\underline{-14 \qquad -14}$
$\dfrac{14.70}{6} = \dfrac{6r}{6}$
$r = \$2.45$

B. What is the maximum number of hours that Mary can rent the bike for if she has $55 to spend?

h = # of hours

$\boxed{55 \geq 2.45h + 14}$

$\dfrac{55 \geq 2.45h + 14}{-14 \qquad -14}$
$\dfrac{41}{2.45} \geq \dfrac{2.45h}{2.45}$
$16.73 > h$

16 hours at the most

6) $\dfrac{n+6}{4} = \dfrac{5}{3}$

$3(n+6) = 4(5)$
$3n + 18 = 20$
$\underline{-18 \quad -18}$
$\dfrac{3n}{3} = \dfrac{2}{3}$
$n = \frac{2}{3}$