

Math 4SN

Word Problems on Linear Equations

Name: \_\_\_\_\_

(keywords: each or per)

- Define variables  $x$  and  $y$ .
- Determine the initial value and rate of change.
- Write an equation in the form  $y = ax + b$  for each situation.

a) Shannon has already taken 2 pictures at home, and she expects to take 2 pictures during every day of vacation.

Let  $x = \#$  of days of vacation

Initial value (b): \_\_\_\_\_

$y =$  Total number of pictures

Rate of Change (a): \_\_\_\_\_

Equation: \_\_\_\_\_

b) Keenan's birthday party costs \$4, plus an additional \$1 for each guest he invites.

Let  $x =$  \_\_\_\_\_

Initial value (b): \_\_\_\_\_

$y =$  \_\_\_\_\_

Rate of Change (a): \_\_\_\_\_

Equation: \_\_\_\_\_

c) Before beginning voice lessons, Leslie already knew how to sing 1 piece, and she expects to learn 2 new pieces during each week of lessons.

Let  $x =$  \_\_\_\_\_

Initial value (b): \_\_\_\_\_

$y =$  \_\_\_\_\_

Rate of Change (a): \_\_\_\_\_

Equation: \_\_\_\_\_

d) During each week of piano lessons, Pancho learns to play 2 new pieces.

Let  $x =$  \_\_\_\_\_ Initial value (b): \_\_\_\_\_  
 $y =$  \_\_\_\_\_ Rate of Change (a): \_\_\_\_\_

Equation: \_\_\_\_\_

e) A 50 000 gallon swimming pool is emptied at a rate of 220 gallons per hour.

Let  $x =$  \_\_\_\_\_ Initial value (b): \_\_\_\_\_  
 $y =$  \_\_\_\_\_ Rate of Change (a): \_\_\_\_\_

Equation: \_\_\_\_\_

f) The cost for an amusement park is \$50 for entry. This includes an unlimited number of rides.

Let  $x =$  \_Number of Rides\_\_\_\_\_ Initial value (b): \_\_\_\_\_  
 $y =$  \_ Total Cost (\$ )\_\_\_\_\_ Rate of Change (a): \_\_\_\_\_

Equation: \_\_\_\_\_