

Unit 4 Linear Equations

Section 4.1 Writing Equations to Describe Patterns

Variable –

Operations –

What is the difference between an expression and an equation?

Expression	Equation

c) Complete the table of values.

Number of hours worked, h	Amount earned, A
0	
1	
2	
3	
4	
5	

d) Write an expression to represent the amount Luke earns per hour?

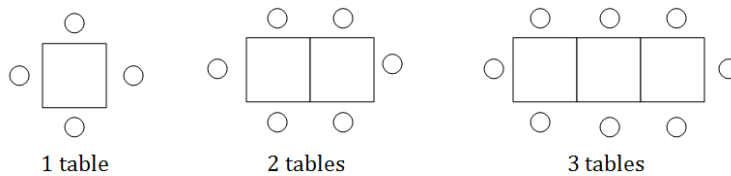
e) Write an equation to represent the amount Luke will earn?

f) Use the equation to determine how much Luke will make shovelling 11 hours in one week?

g) Use the equation to determine how many hours will Luke will need to shovel to earn \$72?

Example 2:

A banquet hall has small square tables that seat 1 person on each side. The tables can be pushed together to form longer tables, as shown below. (The tables are preset)



_____ depends on _____

a) What are the independent and dependent variables?

b) Complete the table of values.

Number of Tables t	Number of People p
1	
2	
3	
4	
5	

c) What expression can be used to represent the number of people?

d) Write an equation, using the variable, t , for number of tables and p , for the number of people.

e) Use the equation to determine the number of people at 10 tables?

f) What number of tables are needed to seat 30 people?

Example 3:

Write an equation for each table below. Verify your answer by substituting values from the table.

a)

n	p
1	3
2	7
3	11
4	15
5	19

b)

f	b
1	4
2	7
3	10
4	13
5	16

c)

x	y
0	10
1	7
2	4
3	1
4	-2

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Example 4:

An airplane is cruising at a height of 9000 m. The table below shows the height of the plane every minute after it begins to descend to land.

Time, t (Minutes)	Height, h (meters)
0	9000
1	8700
2	8400
3	8100
4	7800

- Write an equation that relates the height of the plane to the time.
- What is the height of the plane after 15 minutes?
- How long after the plane begins its decent does the plane land?

Example 5:

Jiffy Cabs charges a fixed rate of \$3.60 plus \$1.50 per kilometre driven.

- Write an expression for the cost of a ride in the cab.
- Write an equation for the total cost of a cab ride.
- What is the cost of a 12 km cab ride?

Pages	Questions	Extra Practice
Section 4.1 Pg 159	4ab, 5cd, 7, 9, 10, 11bc, 12, 14, 16, 20	4cd, 5ab, 6, 8, 11a, 15, 17,