Objectives:

- Write word equations as mathematical equations
- Solve linear equations with integral coefficients
- Use the strategies & techniques linear equations to solve application problems

(A) Lesson Context

Mr Santowski likes to pay attention to the stock market, because he has invested some money for his eventual retirement and for his children's college fund. Since I am investing for the LONG TERM, I pay attention to the ANNUAL growth of each of my stocks. My investment portfolio has the following funds:

Stock	Annual Growth Rate
Exxon Mobile (XOM)	8%
Apple (AAPL)	10%
Proctor & Gamble (PG)	4%
Panasonic Corp (PC)	-6%

(B) Examples (Showing Problem Solving Strategies)

Ex 1. I invest in Exxon and Apple. The value of my investment in Apple is $3000 more than my investment in Exxon. I have made a total gain of $1065 this past year. How much money have I invested in each of Exxon and Apple?

SOLUTION (Use TABLE to organize info) ➜ **NOTE: (Amount)x(Rate)=(Earnings)**

Company invested	Amount invested	Rate	Earnings
Exxon	x	8%	
Apple		10%	
		TOTAL	

(a) The last column suggests an equation we can use to solve the question, which we will use to solve for *x*.

(b) Assuming that the same rate of growth happens in the next 5 years, what will be the total value of this portfolio?

Now try the textbook question, p29, Q7 using the same tabular set up

Ex 2. Another investment option is antiques, so I have recently had my stamp collection appraised. So I have a number of 2 cent Canadian stamps and 10 cent Canadian stamps. The face value of the stamps is $1.08. I have 12 more 2 cent stamps than I have 10 cent stamps. How many of each type do I have?

SOLUTION (Use TABLE to organize info) ➔ **NOTE: (Amount)x(Rate)=(Value)**

Stamps	Amount owned	Rate (or value per stamp)	Total Value
2 cent	x	0.02	
10 cent			
		TOTAL	

(a) The last column suggests an equation we can use to solve the question, which we will use to solve for *x*.

(b) Assuming that the same 2 cent stamps are worth $50 each and the 10 cent stamps are worth $175, what will be the total value of this investment?

Now try the textbook question, p28, Q1 using the same tabular set up.

Now attempt and complete Q1-10 on p28 & 29

Example 3 – Working with Numbers – If I triple a number and then subtract this number from 7, I get -11. What is the number?

Now try the textbook questions, Q1-7 on page 26