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**(A) Fast Five**

- Translate "the sum of 8 and  $y$ " into an algebraic expression.
- Translate "4 less than  $x$ " into an algebraic expression.
- Translate " $x$  multiplied by 13" into an algebraic expression.
- Translate "the quotient of  $x$  and 3" into an algebraic expression.
- Translate "the difference of 5 and  $y$ " into an algebraic expression.
- Translate "the ratio of 9 more than  $x$  to  $x$ " into an algebraic expression.
- Translate "nine less than the total of a number and two" into an algebraic expression, and simplify.

**Here are some more wordy examples:**

- The length of a football field is 30 yards more than its width. Express the length of the field in terms of its width  $w$ .
- Twenty gallons of crude oil were poured into two containers of different size. Express the amount of crude oil poured into the smaller container in terms of the amount  $g$  poured into the larger container.

**Making Data Tables:**

Ex. Michaela has 5-cent and 10-cent stamps with a total value of \$5.75. If she has 5 more 10-cent stamps than 5-cent stamps, how many of each stamp does she have?

5 cent stamps	10 cent stamps	Value of 5 cent stamps	Value of 10 cent stamps	Total Value
15				
29				
	36			
	68			

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**(B) Explorations/Development**

**Example 1:** (Numbers) Twice the difference of a number and 1 is 4 more than that number. Find the number.

**Example 2:** (Geometry) In a blueprint of a rectangular room, the length is 1 inch more than 3 times the width. Find the dimensions if the perimeter is to be 26 inches.

**Example 3:** (Numbers) The sum of 3 consecutive integers is 258. Find the integers.

**Example 4:** (Investing) Mr Santowski has invested \$10,000 for his sons' education. My investment with EDUPLAN earns me a 10% annual return, while my investment with COLLEGEPLAN earns me a 5% annual return. If I made \$800 interest with my investments, how much did I invest with each plan (EDUPLAN and COLLEGEPLAN)

**Example 5:** (Commerce) Brand X sells 21 oz. bags of mixed nuts that contain 29% peanuts. To make their product they combine Brand A mixed nuts which contain 35% peanuts and Brand B mixed nuts which contain 25% peanuts. How much of each do they need to use?

**Write a PLAN explaining HOW to solve (or attempt to solve) word problems**

- (a) Number patterns → lead to equation
- (b) Tabulate info → organize and leads to equation

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(C) Classwork

1. The sum of a number and 2 is 6 less than twice that number.
2. A rectangular garden has a width that is 8 feet less than twice the length. Find the dimensions if the perimeter is 20 feet.
3. The ages of 3 sisters are 3 consecutive even integers. If the sum of twice the 1st even integer, 3 times the 2nd even integer, and the 3rd even integer is 34, find each age.
4. You have \$50,000 to invest, and two funds that you'd like to invest in. The You-Risk-It Fund (Fund Y) yields 14% interest. The Extra-Dull Fund (Fund X) yields 6% interest. Because of college financial-aid implications, you don't think you can afford to earn more than \$4,500 in interest income this year. How much should you put in each fund?
5. Find the selling price per pound of a coffee mixture made from 8 pounds of coffee that sells for \$9.20 per pound and 12 pounds of coffee that costs \$5.50 per pound.

(D) Homework/Resources

- Help from PurpleMath.com → <http://www.purplemath.com/modules/translat2.htm>
- **HW → TEXTBOOK, p44; Exercise 1F; Q3,5,8,10 & p45; Exercise 1G; Q2,3,5,8,9**