**Two Algebraic Word Problems with Solutions.**

1) **Divide $80 among three people so that the second will have twice as much as the first, and the third will have $5 less than the second.**

**Solution**.   We must begin by letting *x* be how much the **first** person gets, since they said nothing about the first person.

Then the **second** gets twice as much, 2*x*.

And the **third** gets $5 less than the second person, (2*x* − 5.



5x – 5 = 80

5x = 80 + 5

5x = 85

x = 85 / 5

x = 17

first person gets: x = 17.

second gets:

|  |  |  |
| --- | --- | --- |
| 2*x* | = | 34. |
|  | | |
| Because 2 x 17 = 34  third gets: | | |
|  | | |
| 2*x* − 5 | = | 29. |

Because 2 x 17 – 5 = 29

2) **The sum of two consecutive numbers**

**is 37.  What are they?**

**Solution**:   Two consecutive numbers are like 8 and 9, or 51 and 52.

Let *x*, then, be the first number.

Then the second number is *x* + 1.

The problem states that their sum is 37:

 = 37

2x + 1 = 37

2x = 37 – 1

2x = 36

x = 36 / 2

x = 18

First number: x = 18

Second number: x +1 = 18 + 1 = 19

The two numbers are 18 and 19.