

LINEAR EQUATIONS IN ONE UNKNOWNForm 1 Regular Course
Vol 2**Part 5B - 2 Parties Problem**

1. Let
- x
- be the number of 20-cent coins.

$$0.2x + 0.5x = 35$$

$$0.7x = 35$$

$$x = 50$$

The total number of coins is 100.

2. Let
- x
- be the amount Andy has.

$$x + x + 14 = 90$$

$$2x = 76$$

$$x = 38$$

Paul: \$52, Andy: \$38

3. (a) Let
- x
- be the price of each story book.

$$10x + 35 = 16x - 61$$

$$6x = 96$$

$$x = 16$$

The price of each story book is \$16.

- (b) The original sum of money =
- $10(16) + 35 = \$195$

4. Let
- x
- be the number of \$2 coins.

$$\frac{x}{16} - \frac{x}{20} = 6$$

$$5x - 4x = 480$$

$$x = 480$$

The amount of money is \$960.

5. Let
- x
- be the amount she originally has.

$$(x - 43) \left(1 - \frac{1}{3} \right) = 48$$

$$x - 43 = 72$$

$$x = 115$$

She originally has \$115.

6. (a) Let x be the number of stamps Bonnie has.

$$x - 100 = 5(1200 - x + 100)$$

$$x - 100 = 5(1300 - x)$$

$$x - 100 = 6500 - 5x$$

$$6x = 6600$$

$$x = 1100$$

Bonnie has 1100 stamps originally.

(b) Let n be the number of stamps needed.

$$1000 - n = 4(200 + n)$$

$$1000 - n = 800 + 4n$$

$$5n = 200$$

$$n = 40$$

Bonnie has to give 40 stamps further.

Part 6 – Age Problem

1. B

Let x be the age of David now.

$$2x - 10 = 4(x - 10)$$

$$2x - 10 = 4x - 40$$

$$2x = 30$$

$$x = 15$$

2. A

Let x be the age of John now.

$$x + 19 + 18 = 2(x + 18)$$

$$x + 37 = 2x + 36$$

$$x = 1$$

John is 1 now.

3. C

Let x be the age of the son now.

$$2(x + 12) + 2 = 3x + 12$$

$$2x + 24 + 2 = 3x + 12$$

$$x = 14$$

Thus, the age of the father is $3 \times 14 = 42$ now.

4. (a) Let x be the age of Jimmy now.

$$(x - 5) + (2x - 5) = 65$$

$$3x - 10 = 65$$

$$3x = 75$$

$$x = 25$$

Patrick is 50 now.

(b) Let n be the number of years ago.

$$50 - n = 6(25 - n)$$

$$50 - n = 150 - 6n$$

$$5n = 100$$

$$n = 20$$

20 years ago.

5. Let n be the number of years later.

$$60 + 3n = 120$$

$$3n = 60$$

$$n = 20$$

20 years later.

6. Let x be mother's current age.

$$x + 5 = 3(12 + 5)$$

$$x + 5 = 51$$

$$x = 46$$

Mother is 46 now.