

## Math Magic Trick 6

### Start:

- |   |          |                      |
|---|----------|----------------------|
| Step 1) Pick a number.  | example: | 12                   |
| Step 2) Mentally multiply this number by 2  |          | 24                   |
| Step 3) Mentally add 5 to the number in Step 2)   |          | 29                   |
| Step 4) Multiply the number in Step 3) by 50  |          | 1450                 |
| Step 5) If you have already had your birthday this year and 3200<br>it's the year 2001, add 1751. If you haven't, add 1750.<br>(Note: each year these numbers increase by 1. In 2002, you'd add 1752<br>if you already had your birthday and 1751 if you haven't) |          |                      |
| Step 6) Subtract the 4 digit year that you were born  |          | $3200 - 1952 = 1248$ |
| Step 7) Have the person tell you the number from Step 6)  |          |                      |

### Mental Trick:

Teacher tells the person their age and the original number from Step 1)

### How teacher gets the answer:

The first digit(s) of the number from Step 7) is the original number. The last two digits are the age of the person.

### Why it works:

Let the number in Step 1) be  $x$

- |   |          |                                  |
|---|----------|----------------------------------|
| Step 1) Pick a number.  | example: | $x$                              |
| Step 2) Mentally multiply this number by 2  |          | $2x$                             |
| Step 3) Mentally add 5 to the number in Step 2)   |          | $2x + 5$                         |
| Step 4) Multiply to the number in Step 3) by 50   |          | $50(2x + 5) = 100x + 250$        |
| Step 5) If you have already had your birthday this year and 3200<br>it's the year 2001, add 1751. If you haven't, add 1750.<br>(Note: each year these numbers increase by 1. In 2002, you'd add 1752<br>if you already had your birthday and 1751 if you haven't) |          | $100x + 2000$                    |
| Step 6) Subtract the 4 digit year that you were born  |          | $100x + 2000 - \text{year born}$ |
| Step 7) Have the person tell you the number from Step 6)  |          | $100x + \text{years old}$        |