9/9 Notes
Equations Involving Ages

1) Andy is twice as old as Kate. In 6 years, their ages will total 60. How old is each now?

Kate 16 yrs old, Andy 32 yrs old

	now	in 6 years
Andy	2k	2k+6
Kate	k	k+6
		Sum = 60

$2k+6+k+6=60$

$3k+12=60$

$-12 \quad -12$

$\frac{3k}{3}=\frac{48}{3}$

$k=16$

7) Kathy is 6 years younger than Bill.
Twelve years ago, Bill was twice as old as Kathy was then.
How old are they now?

Bill 24 yrs old, Kathy 18 yrs old

	now	Twelve years ago
Kathy	B-6	B-6-12 = B-18
Bill	B	B-12

Bill = 2(Kathy)

$B-12 = 2(B-18)$

$B-12 = 2B-36$

$-B \quad -B$

$-12 = B-36$

$+36 \quad +36$

$24 = B$

Part 2

1) Mr. Klinker is 35 and his daughter is 10.
In how many years will Mr. Klinker be twice as old as his daughter?

	now	In x years
Mr. Klinker	35	35 + x
daughter	10	10 + x

so 25 ✓

Mr K = 2(daughter)

$35+x = 2(10+x)$

$35+x = 20+2x$

$-x \quad -x$

$35 = 20+x$

$-20 \quad -20$

$15 = x$

In 15 years

Part 2

3) Pete is 14 and his grandfather is 54.

How many years ago was his grandfather 6 times as old as Pete?

	now	x years ago
Pete	14	14 - x
Grandfather	54	54 - x

Grandfather = 6(Pete)

$54 - x = 6(14 - x)$

$54 - x = 84 - 6x$

$+6x \quad +6x$

$54 + 5x = 84$

$-54 \quad -54$

$\frac{5x}{5} = \frac{30}{5}$

$x = 6$

6 years ago