Accelerated Math Notes
(Lesson 8 - 3)
Writing Equations

To write an equation for a word problem that uses only one variable:

(word model)

* Rewrite the word problem in a simpler way
* Identify the unknown and define a variable for the unknown
* Write the equation using the numbers in the problem - Do NOT do any arithmetic first!!

Jackie's mother is 28 years old, which is four times Jackie's age minus eight years. Find Jackie's age.

Let a = Jackie's age

Jackie's mother age $= 4($Jackie's age$) - 8$

$28 = 4a - 8$

$+8 \qquad +8$

$36 = 4a$

$\frac{36}{4} = \frac{4a}{4}$

$9 = a$

9 years old

Five more than half a number is -25. Find the number.

Let n = the #

$\frac{1}{2}$ the # $+ 5 = -25$

$\frac{1}{2}n + 5 = -25$

$-5 \qquad -5$

$\frac{1}{2}n = -30$

$(2)\ \frac{1}{2}n = -30(2)$

$n = -60$

Rafiq threw a baseball 84 miles per hour, which is 21 miles per hour less than twice the speed that Jonah threw. Find the speed that Jonah threw.

Let n = Jonah's speed

Rafiq speed $= 2($Jonah's speed$) - 21$

$84 = 2n - 21$

$+21 \qquad +21$

$105 = 2n$

$\frac{105}{2} = \frac{2n}{2}$

52.5 mph

$52.5 = n$

Kara's mother was 32 years old when Kara was born. This year, the sum of their ages is 62. Find their ages.

Now

Kara's age now = K

Kara's mother now = K+32

[Kara's age now] + [mother's age now] = 62

$K + K+32 = 62$

$2K + 32 = 62$

$-32 \quad -32$

$2K = 30$

$\frac{2K}{2} = \frac{30}{2}$

$K = 15$

Kara 15 years

mother $K + 32 = 15 + 32 = 47$ years

p 341 #3

Let t = # of cards Tyler has

[Morgans cards] = [$\frac{2}{3}$ • # of cards Tyler] − 12

$98 = \frac{2}{3}t - 12$