Algebra I

3-4
Solving Word Problems

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1) The sum of 38 and twice a number is 124. (pg 113)
   Find the number.

Let x = number $\boxed{43}$

$$38 + 2x = 124$$
$$38 - 38 + 2x = 124 - 38$$
$$\frac{2x}{2} = \frac{86}{2}$$
$$x = 43$$
$$\{43\}$$

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11) Chanel's Burger Barn sold 495 hamburgers today. The number sold with cheese was half the number sold without cheese. How many of each kind were sold?

Let x = plain burgers
$\frac{1}{2}x$ = cheese burgers

$\boxed{330}$
$\boxed{165}$

We know the least information about the number without cheese, or plain hamburgers.

$$2\left[x + \frac{1}{2}x = 495\right]$$
$$2x + x = 990$$
$$\frac{3x}{3} = \frac{990}{3}$$
$$x = 330$$
$$\{330\}$$

The first sentence tells us that the total number sold was 495. Therefore, we must add the plain burgers and the cheese burgers to equal this.

PG 113
1-14 all