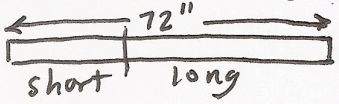
2. Tom needs to cut a 6-foot board (72 inches) into two pieces. The longer piece is to be 12 inches less than three times the shorter piece. What is to be the length of each piece?



good diagram

Let x = length of shorter piece

$3x-12$ = length of longer piece

good legend

x

short	+ Long	= Total	
x	$3x-12$	72	
$21 + 51 = 72$ ✓			

$$x + (3x-12) = 72$$
$$x + 3x - 12 = 72$$
$$4x - 12 = 72$$
$$+12 = +12$$
$$4x = 84$$
$$\frac{4x}{4} = \frac{84}{4}$$
$$x = 21$$

$$4\overline{)84} \quad 21$$
$$-8$$
$$4$$
$$-4$$
$$0$$

good solving of equation

Long $= 3(21) - 12$
$= 63 - 12$
$= 51$

unit of measure is included.

Sentence: The shorter piece is 21 inches and the longer piece is 51 inches.

#2 Score: 10/10

3. Uncle Harry has three nieces. In his will, he decides to give Janet $10,000 more than he gives Nancy, and to give Cathy twice as much as he gives to Janet. If Harry's will leaves $92,000 to the three nieces, how much will each niece receive?

Let x = Nancy's Amount

$x + 10{,}000$ = Janet's Amt.

$2(x + 10{,}000)$ = Cathy's Amt.

good legend

15,500
25,500
51,000

Good use of chart (not required)

N +	J +	C =	Total
x	$x + 10{,}000$	$2(x + 10{,}000)$	92,000

$$x + (x + 10{,}000) + 2(x + 10{,}000) = 92{,}000$$
$$x + x + 10{,}000 + 2x + 20{,}000 = 92{,}000$$
$$4x + 30{,}000 = 92{,}000$$
$$-30{,}000 = -30{,}000$$
$$4x = 62{,}000$$
$$\frac{4x}{4} = \frac{62{,}000}{4}$$
$$x = 15{,}500$$

$$4\overline{)62{,}000} \quad 15{,}500$$
$$-4$$
$$22$$
$$-20$$
$$20$$

$$15{,}500 + 25{,}500 + 51{,}000 = 92{,}000$$

good solving of equation

Sentence: Nancy will receeive $15,500, Janet will receive $25,500, and Cathy will receive $51,000.

good, complete sentence

#3 Score: 10/10