Foundations for College Algebra
Spring 2016
Quiz #6

Name: _Key_ Date: _March 9, 2016_

Show all work!

1. Five less than six times a certain number is negative twenty-three. What is the number?

Let x be a certain number

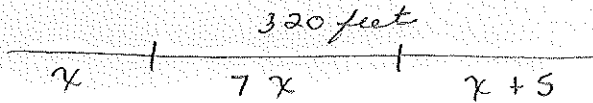$$6x - 5 = -23$$
$$6x = -18$$
$$x = -3$$

ck

$$6(-3) - 5 = -23$$
$$-18 - 5 = -23$$
$$-23 = -23 \checkmark$$

2. Lucinda cut a piece of string into three pieces. The second piece is seven times as long as the first piece and the third piece is five feet longer than the first piece. If the total length of the string is three-hundred and twenty feet, find the lengths of all three pieces.

320 feet

| x | $7x$ | $x+5$ |

$$x + 7x + x + 5 = 320$$
$$9x + 5 = 320$$
$$9x = 315$$
$$x = 35$$

1st Piece is 35 feet
2nd Piece is $7(35) = 245$ feet
3rd Piece is $35 + 5 = 40$ feet

ck
$$35 + 245 + 40 = 320$$
$$320 = 320 \checkmark$$

3. The sum of three consecutive odd integers is -543. Find the smallest integer.

① x ② $x+2$ ③ $x+4$

$$x + x+2 + x+4 = -543$$
$$3x + 6 = -543$$
$$3x = -549$$
$$x = -183$$

① $\boxed{-183}$

② $-183 + 2 = -181$

③ $-183 + 4 = -179$

ck
$$-183 + (-181) + (-179) = -543$$
$$-543 = -543$$

4. Today 15% of Miss Toby's third-grade class was absent. If only 34 students were present, what is the actual size of Miss Toby's class?

$$100\% - 15\% = 85\%$$

$$85\% (x) = 34$$

$$.85 \cdot x = 34$$

$$x = 40$$

$$\boxed{40 \text{ Total Students}}$$

$$\underline{ok}$$

$$.85(40) = 34$$

$$34 = 34 \checkmark$$

5. Christi is hiking the Appalachian Trail (AT) with friends from UNG over spring break. They will start their hike at Springer Mountain in Georgia and hike to the North Carolina boarder some seventy-six miles. Toward the end of the week Christi is three times as far from Springer Mt. than the end of the hike. How much further does Christi have to hike to North Carolina?

76 miles

$$3x \quad | \quad x$$

$$3x + x = 76$$

$$4x = 76$$

$$x = 19$$

$$\boxed{19 \text{ miles to end}}$$

$$\underline{Ck}$$

$$3(19) + 19 = 76$$

$$57 + 19 = 76$$

$$76 = 76$$