NAME

DATE

Module 5 Solving Linear Inequalities of One Variable

Lesson 7 Solving Problems Using Inequalities of One Variable

additional practice

Solve.

1. A number, n, decreased by 12 is less than –7. What are the possible values of the number?

$n - 12 < -7$

$n < 5$

2. A number, j, divided by 10 is greater than 2. What are the possible values of the number?

$J \div 10 > 2$ OR $J/10 > 2$

$J > 20$

3. Clara can invite at most 75 people to a party. She has invited 21 people from her Girl Scout Troop. How many more people can Clara invite?

$x + 21 \leq 75$

$x \leq 54$

4. Xavier earned no more than $1000 last week. If he earns a base pay of $400 each week as well as a commission of 12% of all sales he makes, what is the greatest possible value of the merchandise he sold?

$400 + .12x \leq 1000$

$.12x \leq 600 \quad x \leq 5000$

5. Ferd pays 25% of his monthly salary in taxes. Ferd earns at least $675 each month after taxes are taken from his paycheck. What is the minimum amount Ferd earns in a month **before** taxes are taken away?

$s - .25s \geq 675$

$.75s \geq 675 \quad s \geq 900$

6. The perimeter of a triangular garden can be no more than 75 meters. Two sides of the garden are 33 meters long. What is the longest possible length for the third side?

$66 + x \leq 75$

$x \leq 9$

7. The sum of three consecutive even integers is no less than 42. What are the least possible values for the integers?

1 2 3

$x + (x+2) + (x+4) \geq 42$

$3x + 6 \geq 42$

$3x \geq 36$

$x \geq 12$

so 12, 14, 16

8. A pitcher holds 24 oz. of a punch that contains 10% orange juice. What is the minimum amount of pure orange juice that must be added to the punch so that it contains at least 20% orange juice?

10% of 24 = 2.4 20% = 4.8

$2.4 + x \geq 4.8$

$x \geq 2.4$