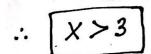
Creating Linear Inequalities

Opening Problem: Ann observed the number of roses and cosmos flowers in a garden. She counts 3 roses and sees there are more cosmos flowers than roses. How can you represent this scenario with an inequality?





Vocabulary:

- Inequality: a mathematical sentence that compares two quantities. An inequality involves one of the four symbols >, <, \geq , $or \leq$.

Examples of Linear Inequalities

$$x > 3$$

$$6x < 4x - 8$$

$$8y + 16 \ge 3y + 4$$

Solving Linear Inequalities

Example 1: Solve the inequality

$$4-2k>7+x$$

$$+2x$$

$$+2x$$

Example 2: Solve the inequality

$$5y - 8 \le 9y + 16$$

flip the ity inequality when dinding the by a negative

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Name: Key	Algebra II	Period:
U	Creating Linear Inequ	alities X
marhles v	s to collect marbles. If he adds 5 more ma	arbles to his collection, the total number
x: # of mark	X+5 > 20	him
or a superior	[X+5>20]	
number of	is celebrating her birthday by distributing cakes left with her is less than 10. Model t	
X: # of cak	es originally < X-3<10	
5	X-3<10	
1	+ 3× ×	> 10
	1+3x>10	
Example 6: Leslie has	a budget of \$60 to spend on new clothes f is a sale going on for \$6 shirts and	d \$15 pants.
a.) Model this situa	ition with an inequality.	p-# of pants
	65+15p < 60	t a rithe is 2.5. The same of
	get three pairs of pants, how many shirts when $\beta = 3$	
5 = 2	She can brug 2 shirts and stry under budget.	65+45-60
c \ Leslie has 6 shir	stay under bulget. ts and two pairs of pants in her cart. Will s	she be able to purchase all of them and
stay under her.		The second secon
	36 + 30 460	[NO] put away one shirt.
	66460	