LESSON MAKER PRO

Inequality Story Builders

Turn each inequality into a real-world situation.

GRADE 8 · 8.PFA.5.d

8.PFA.5.d "Create a verbal situation in context given a multistep linear inequality in one variable."

NAME _____ DATE _____

MATCH EVERY PART

Choose what x stands for, then match each operation to an action in your situation. A number added or subtracted can be a fee, bonus, discount, or items gained or removed. The inequality sign must match words such as at most, at least, more than, or less than.

WORKED EXAMPLE

Create a situation for $14x + 17 > 59$. State what x means.

1. Let x be the number of art kits sold.
2. Each kit brings in $14, so the kit income is 14x.
3. Add a $17 donation to get 14x + 17.
4. Use "more than" because the total is greater than $59.

Answer: Let x be the number of art kits sold. An art club earns $14 for each kit sold and receives a $17 donation, for a total of more than $59.

PRACTICE 6 problems

1 Create a situation for $3x + 8 <= 29$. State what x means.

ANSWER _____

2 Create a situation for $6x - 11 > 25$. State what x means.

ANSWER _____

3 Create a situation for $4(x + 2) >= 36$. State what x means.

ANSWER _____

4 Create a situation for $9x + 12 < 66$. State what x means.

ANSWER _____

5 Create a situation for $5(x - 3) <= 40$. State what x means.

ANSWER _____

6 Create a situation for $2(3x + 7) > 50$. State what x means.

ANSWER _____

APPLY IT Show your work

1 Create a word problem about visiting an arcade for 8x + 15 <= 71. Include a $15 entrance fee, credit packs that cost $8 each, and a spending limit of $71. State what x means.

WORK SPACE

ANSWER _____

2 Create a word problem about ordering band shirts for 12 + 5(x - 2) > 42. Include $12 shipping, five shirts, and a $2 coupon off each shirt. State what x means.

WORK SPACE

ANSWER _____

CHALLENGE One step up

For 3(x + 4) - 6 > 30, write two different real-world situations. Define x in each situation, then explain how both situations match the inequality.

WORK SPACE AND ANSWER

ANSWER KEY

Inequality Story Builders

GRADE 8 · 8.PFA.5.d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Create a situation for 3x + 8 <= 29. State what x means.	**Let x be the number of songs downloaded. A student downloads songs for $3 each and pays an $8 album fee, spending at most $29.**
2	Create a situation for 6x - 11 > 25. State what x means.	**Let x be the price of one game pass. Six game passes cost more than $25 after an $11 discount is used.**
3	Create a situation for 4(x + 2) >= 36. State what x means.	**Let x be the number of stickers already in each prize bag. Four prize bags each get two more stickers, and there are at least 36 stickers altogether.**
4	Create a situation for 9x + 12 < 66. State what x means.	**Let x be the cost of one smoothie. Nine smoothies plus a $12 delivery fee cost less than $66.**
5	Create a situation for 5(x - 3) <= 40. State what x means.	**Let x be the original price of one movie ticket. Five tickets, each discounted by $3, cost at most $40.**
6	Create a situation for 2(3x + 7) > 50. State what x means.	**Let x be the points earned for each correct answer. In each of two rounds, a player earns points for three correct answers plus 7 bonus points, and the score from both rounds is more than 50 points.**

PART 2 · APPLY IT

1. **At an arcade, Jordan pays a $15 entrance fee and buys x credit packs for $8 each. How many credit packs can Jordan buy while spending no more than $71?** The entrance fee is the fixed 15, each credit pack adds 8x, and "no more than" matches <=.
2. **A group pays $12 for shipping and orders five band shirts that each cost x dollars before a $2 coupon. The total cost is more than $42. What prices for one shirt make this true?** Shipping gives 12, five shirts discounted by 2 give 5(x - 2), and "more than" matches >.

CHALLENGE

Let x be the number of cans each team collects before a four-can bonus. Three teams collect x + 4 cans each, then give away 6 cans, leaving more than 30 cans. Let x be the price of each game bundle before a $4 service charge. Three bundles cost x + 4 dollars each, and a $6 coupon is used, so the total is more than $30. In both situations, three groups of x + 4 make 3(x + 4), subtracting 6 gives the discount or cans given away, and more than 30 matches > 30.

Accept any realistic context that correctly represents every term, grouping symbol, and inequality sign. Students may use equivalent wording for the variable and comparison phrase.