LESSON MAKER PRO

Inequality Story Studio

Turn inequality expressions into real-world situations.

GRADE 7 · 7.PFA.4.e

7.PFA.4.e "Create a verbal situation in context given a one or two-step linear inequality in one variable."

NAME _____ DATE _____

BUILD THE STORY

First, name what x represents. Match each operation to an action in your situation, such as a cost added, a discount subtracted, or an amount for each item. Use comparison words that match the inequality symbol, such as less than, more than, at most, or at least.

WORKED EXAMPLE

Given 8x + 4 < 36, create a situation in context.

1. Let x represent the number of arcade game plays.
2. The term 8x can represent $8 for each game play.
3. The + 4 can represent a $4 entry fee, and < 36 means the total is less than $36.
4. Write a situation that includes all of those parts.

Answer: At an arcade, x game plays cost $8 each, plus a $4 entry fee. The total cost is less than $36.

PRACTICE 6 problems

1 Given x < 15, define x and write one situation in context.

ANSWER _____

2 Given x >= 20, define x and write one situation in context.

ANSWER _____

3 Given x + 9 <= 27, define x and write one situation in context.

ANSWER _____

4 Given 3x > 24, define x and write one situation in context.

ANSWER _____

5 Given 2x - 7 >= 13, define x and write one situation in context.

ANSWER _____

6 Given 9x + 1 < 55, define x and write one situation in context.

ANSWER _____

APPLY IT Show your work

1 An online game costs $18, and each add-on costs $3. Given 3x + 18 <= 45, create a situation using this inequality. Define x in your situation.

WORK SPACE

ANSWER _____

2 A music club buys songs for $5 each and uses a $9 coupon. Given 5x - 9 > 26, create a situation using this inequality. Define x in your situation.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Given 7x + 2 < 44, create a situation in context. Then explain why your situation uses the words "less than" instead of "at most."

WORK SPACE AND ANSWER

ANSWER KEY

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Given x < 15, define x and write one situation in context.	**x = the number of minutes a player practices a new game level. The player practices for fewer than 15 minutes.**
2	Given x >= 20, define x and write one situation in context.	**x = the number of laps a runner completes in a fundraiser. The runner completes at least 20 laps.**
3	Given x + 9 <= 27, define x and write one situation in context.	**x = the price of a concert ticket in dollars. A $9 service fee is added, and the total cost is at most $27.**
4	Given 3x > 24, define x and write one situation in context.	**x = the number of custom stickers bought. Each sticker costs $3, and the total cost is more than $24.**
5	Given 2x - 7 >= 13, define x and write one situation in context.	**x = the number of snacks bought. Each snack costs $2, a $7 coupon is subtracted, and the final cost is at least $13.**
6	Given 9x + 1 < 55, define x and write one situation in context.	**x = the number of game credits bought. The credits cost $9 each, plus a $1 account fee, and the total cost is less than $55.**

PART 2 · APPLY IT

1. **x = the number of add-ons bought for an online game. The game costs $18, each add-on costs $3, and the total cost is at most $45.** The $18 is the game cost, 3x is the cost of x add-ons, and <= means the total can be $45 or less.
2. **x = the number of songs the music club buys. The songs cost $5 each, a $9 coupon is subtracted, and the cost after the coupon is more than $26.** The term 5x represents the song cost, and subtracting 9 represents the coupon. The symbol > means the final cost is greater than $26.

CHALLENGE

x = the number of practice sessions at a sports center. Each session costs $7, plus a $2 registration fee, and the total cost is less than $44. The phrase "less than" is correct because < does not include $44.

Accept any realistic context that defines x, matches every operation and number, and uses comparison language that matches the symbol. Equivalent wording, such as "no more than" for <= and "at least" for >=, is acceptable.