LESSON MAKER PRO

Inequality Story Builder

Turn real situations into linear inequalities.

GRADE 7 · 7.PFA.4.d

7.PFA.4.d "Write one- or two-step linear inequalities in one variable to represent a verbal situation, including those in context."

NAME _____ DATE _____

TRANSLATE THE WORDS

Let x stand for the unknown amount. Combine any starting amount with the amount that changes for each group. Use <= for at most or no more than, >= for at least, < for below, and > for more than.

WORKED EXAMPLE

A club charges a $7 sign-up fee and $3 per meeting. Let x be the number of meetings. Write an inequality if the total cost is at most $25.

1. Let x = the number of meetings.
2. The total cost is 7 + 3x.
3. At most $25 means the cost is less than or equal to 25.

Answer: 7 + 3x <= 25

PRACTICE 6 problems

1 A plant is 12 centimeters tall and grows 4 centimeters each week. Let x be the number of weeks. Write an inequality if the plant must be taller than 28 centimeters.

ANSWER _____

2 You have $35. Each arcade game costs $6. Let x be the number of games. Write an inequality if you want at least $11 left.

ANSWER _____

3 Tickets cost $9 each. Let x be the number of tickets. Write an inequality if you can spend no more than $45.

ANSWER _____

4 You have read 17 pages of a book. You read 8 pages each day. Let x be the number of days. Write an inequality if you want to read at least 50 pages total.

ANSWER _____

5 You earn $5 for each chore. Let x be the number of chores. Write an inequality if you want to earn more than $30.

ANSWER _____

6 The temperature begins at -2 degrees and rises 13 degrees each hour. Let x be the number of hours. Write an inequality if the temperature must stay below 19 degrees.

ANSWER _____

APPLY IT Show your work

1 A mobile game data plan charges $21 each month plus $1 for each extra gigabyte of data. Let x be the number of extra gigabytes. Write an inequality if the bill must be no more than $27.

WORK SPACE

ANSWER _____

2 You have 33 GB of free storage on a device. A game download uses 16 GB, and each add-on uses 2 GB. Let x be the number of add-ons. Write an inequality if you need at least 14 GB of free storage left.

WORK SPACE

ANSWER _____

CHALLENGE One step up

You have $82 for a team shirt order. A $15 design fee is paid first, and each shirt costs $18. Let x be the number of shirts. Write an inequality if at least $24 must be left for paint. Then explain why the inequality uses >=.

WORK SPACE AND ANSWER

ANSWER KEY

Inequality Story Builder

GRADE 7 · 7.PFA.4.d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A plant is 12 centimeters tall and grows 4 centimeters each week. Let x be the number of weeks. Write an inequality if the plant must be taller than 28 centimeters.	**12 + 4x > 28**
2	You have $35. Each arcade game costs $6. Let x be the number of games. Write an inequality if you want at least $11 left.	**35 - 6x >= 11**
3	Tickets cost $9 each. Let x be the number of tickets. Write an inequality if you can spend no more than $45.	**9x <= 45**
4	You have read 17 pages of a book. You read 8 pages each day. Let x be the number of days. Write an inequality if you want to read at least 50 pages total.	**17 + 8x >= 50**
5	You earn $5 for each chore. Let x be the number of chores. Write an inequality if you want to earn more than $30.	**5x > 30**
6	The temperature begins at -2 degrees and rises 13 degrees each hour. Let x be the number of hours. Write an inequality if the temperature must stay below 19 degrees.	**-2 + 13x < 19**

PART 2 · APPLY IT

1. **21 + x <= 27** Start with the monthly charge and add $1 for each extra gigabyte. The phrase no more than means use <= 27.
2. **33 - 16 - 2x >= 14** Subtract the game and the add-ons from the starting free storage. At least 14 GB left means use >= 14.

CHALLENGE

82 - 15 - 18x >= 24. It uses >= because the money left can be $24 or any amount greater than $24.

Accept equivalent inequalities that preserve the stated comparison and use x as defined. Students may combine constants in the storage and challenge inequalities.