LESSON MAKER PRO

Inequality Story Builder

Turn real situations into multistep inequalities.

GRADE 8 · 8.PFA.5.c

8.PFA.5.c "Write multistep linear inequalities in one variable to represent a verbal situation, including those in context."

NAME _____ DATE _____

BUILD THE INEQUALITY

Let x stand for the unknown number of items, jobs, or time units. Combine the starting amount and the amount that changes, then use words such as at least, more than, or no more than to choose the inequality sign.

WORKED EXAMPLE

A music app charges $7 to join and $3 for each song pack. Write an inequality if the total cost is no more than $31. Let x be the number of song packs.

1. Start with the join fee and song-pack cost: 7 + 3x.
2. Use <= for "no more than."
3. Write 7 + 3x <= 31.

Answer: 7 + 3x <= 31

PRACTICE 5 problems

1 A game store gives you a $5 credit, then you buy x used games for $4 each. The amount you pay is no more than $27. Write an inequality.

ANSWER _____

2 An art workshop costs $9 to join and $6 per class. You can spend at most $39. Let x be the number of classes. Write an inequality.

ANSWER _____

3 You begin with $62 and spend $8 on each snack. You want at least $22 left. Let x be the number of snacks. Write an inequality.

ANSWER _____

4 A fundraiser owes $11 for supplies and earns $10 for each bracelet sold. It needs at least $33 left after repaying that supply debt. Let x be the number of bracelets. Write an inequality.

ANSWER _____

5 A robot is 49 cm from a wall and moves 12 cm toward it each second. It must stay more than 19 cm from the wall. Let x be the number of seconds. Write an inequality.

ANSWER _____

APPLY IT Show your work

1 A gaming headset costs $83. Jay has $17, earns $14 for each dog-walking job, and sets aside $2 for bus fare. Let x be the number of jobs. Write an inequality showing that Jay has enough money for the headset.

WORK SPACE

ANSWER _____

2 The drama club has $121. It pays $37 for a license and $16 for each T-shirt. The club must keep at least $24 unspent. Let x be the number of T-shirts. Write an inequality.

WORK SPACE

ANSWER _____

CHALLENGE One step up

An online art course charges an $18 enrollment fee and $21 per session. Sam has a $13 coupon and will spend no more than $59. Let x be the number of sessions. Write an inequality, then explain why the coupon amount is subtracted.

WORK SPACE AND ANSWER

ANSWER KEY

Inequality Story Builder

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A game store gives you a $5 credit, then you buy x used games for $4 each. The amount you pay is no more than $27. Write an inequality.	**4x - 5 <= 27**
2	An art workshop costs $9 to join and $6 per class. You can spend at most $39. Let x be the number of classes. Write an inequality.	**9 + 6x <= 39**
3	You begin with $62 and spend $8 on each snack. You want at least $22 left. Let x be the number of snacks. Write an inequality.	**62 - 8x >= 22**
4	A fundraiser owes $11 for supplies and earns $10 for each bracelet sold. It needs at least $33 left after repaying that supply debt. Let x be the number of bracelets. Write an inequality.	**10x - 11 >= 33**
5	A robot is 49 cm from a wall and moves 12 cm toward it each second. It must stay more than 19 cm from the wall. Let x be the number of seconds. Write an inequality.	**49 - 12x > 19**

PART 2 · APPLY IT

1. **17 + 14x - 2 >= 83** Start with Jay's money, add the job earnings, and subtract the bus fare. Having enough means the amount is at least the headset cost.
2. **121 - 37 - 16x >= 24** Subtract the license cost and the T-shirt cost from the starting amount. The money left must be at least $24.

CHALLENGE

18 + 21x - 13 <= 59. The coupon lowers the cost, so 13 is subtracted.

Accept equivalent expressions with terms in a different order. The inequality symbol must match the comparison words in each situation.