"I Can Write an Inequality and Graph the Solution Set on a Number Line to represent a condition in a Real-World Situation."

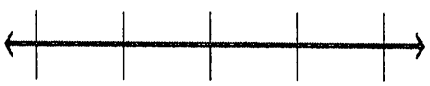
Inequalities and Equations in Real-World Situations

Can $x = \{3, 5, 7, 10, 14, 22\}$

1. $-3 + x > 11$

2. $5 \geq \frac{x}{2}$

3. $38 < 9 + x + 7$



4. Kasey has been mowing lawns to save up money for a concert. He earns $15 per hour and needs at least $90 to go to the concert. How many hours, *h*, should he mow?

5. Boris wants to buy a turkey for Thanksgiving so that all 9 family members get the same amount of food. If each family member will eat at most 2 pounds of turkey, how many pounds p of turkey will Boris need to buy?

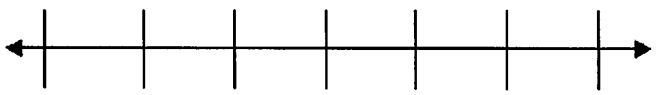
6. The temperature is 36 degrees in the morning and rises d degrees by the afternoon and falls 7 degrees at night. If the temperature is 42 degrees at night, how much did the temperature rise in the afternoon?

7. Blake had x in his wallet, gave 5 dollars to a friend and received 8 from another friend. If Blake now has less than $7, how much money could Blake have started with?

8. Jill went the market and bought a bags of apples for \$6 each. If Mary's total exceeded \$42, how many bags of apples could Mary have purchase?

9. Bart went to the shopping mall and bought 6 pair of jeans for m dollars each but had a \$15 coupon. At the register, his total was \$105. How much was each pair of jeans?

10. Jessica is planning for Halloween and wants to figure out how much candy she will need. If plans on giving each child 3 pieces of candy and expects more than 50 children, write and solve an inequality to find out how many pieces of candy she will need to buy.



Will 120 pieces of candy be enough? Why or Why Not?

_____

_____

If candy comes in bags of 20 pieces, how many bags will Jessica have to buy?

How much money will Jessica spend if each bag costs \$2.50?

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Inequalities and Equations in Real-World Situations

Can $x = \{3, 5, 7, 10, 14, 22\}$

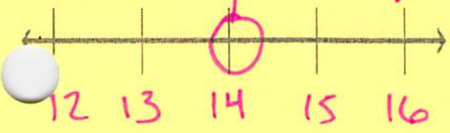
1. $-3 + x > 11$

$+3 \quad +3$

$x > 14$

15 > 14 ✓

16 > 14 ✓



$x = \{22\}$

2. $5 \geq \frac{x}{2}$

$\cdot 2 \quad \cdot 2$

$10 \geq x$

$10 \geq 8$ ✓

$10 \geq 9$ ✓

$x = \{3, 5, 7, 10\}$

3. $38 < 9 + x + 7$

$-9 \quad -9$

$29 < x + 7$

$-7 \quad -7$

$22 < x$

$x = \{\}$

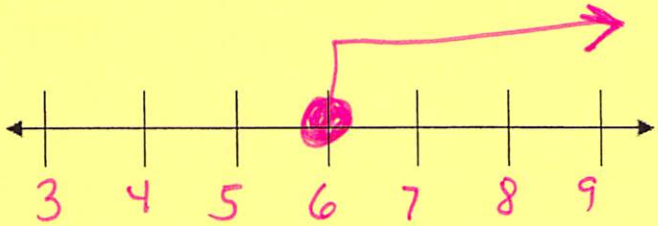
4. Kasey has been mowing lawns to save up money for a concert. He earns $15 per hour and needs at least $90 to go to the concert. How many hours, h, should he mow?

$\geq$

$15 \cdot h \geq 90$

$\div 15 \quad \div 15$

$h \geq 6$



Kasey needs to work at least 6 hours to go to the concert

5. Boris wants to buy a turkey for Thanksgiving so that all 9 family members get the same amount of food. If each family member will eat at most 2 pounds of turkey, how many pounds p of turkey will Boris need to buy?

$\leq$

$$\frac{p}{9} \leq 2$$

$$\cdot 9 \quad | \quad \cdot 9$$

$$p \leq 18$$

Boris needs to buy at most on 18 16 turkey

6. The temperature is 36 degrees in the morning and rises d degrees by the afternoon and falls 7 degrees at night. If the temperature is 42 degrees at night, how much did the temperature rise in the afternoon?

$+d$

$=$

$$36 + d - 7 = 42$$

$$+7 \quad | \quad +7$$

$$36 + d = 49$$

$$-36 \quad | \quad -36$$

$$d = 13$$

The temperature rose 13° in the afternoon

-5 $+8$

7. Blake had x in his wallet, gave 5 dollars to a friend and received 8 from another friend. If Blake now has less than \$7, how much money could Blake have started with?

$$x - 5 + 8 < 7$$

$$+5 \quad | \quad +5$$

$$x + 8 < 12$$

$$-8 \quad | \quad -8$$

$$x < 4$$

Blake had less than \$4 in his wallet to start.

8. Jill went the market and bought a bags of apples for \$6 each. If Mary's total exceeded \$42, how many bags of apples could Mary have purchase?

> 42

$6 \cdot a > 42$

$\div 6 \quad \div 6$

$a > 7$

Mary bought more than 7 bags of apples

9. Bart went to the shopping mall and bought 6 pair of jeans for m dollars each but had a \$15 coupon. At the register, his total was \$105. How much was each pair of jeans?

$6 \cdot m - 15 = 105$

$+15 \quad +15$

$6m = 120$

$\div 6 \quad \div 6$

$m = 20$

Each pair of jeans was \$20

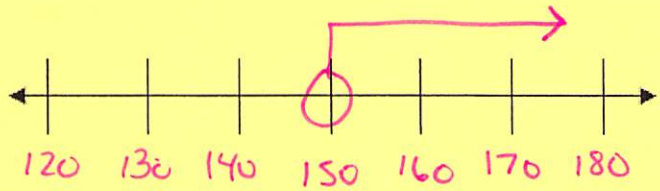
10. Jessica is planning for Halloween and wants to figure out how much candy she will need. If plans on giving each child 3 pieces of candy and expects more than 50 children, write and solve an inequality to find out how many pieces of candy she will need to buy.

> 50

$C \div 3 > 50$

$\cdot 3 \quad \cdot 3$

$C > 150$



Will 120 pieces of candy be enough? Why or Why Not?

No! $120 \not> 150$!

If candy comes in bags of 20 pieces, how many bags will Jessica have to buy?

$150 \div 20 = 7.5 \rightarrow$ At least 8 bags

How much money will Jessica spend if each bag costs \$2.50?

$8 \cdot \$2.50 = \$20 \rightarrow$ At least \$20