

6.3 Why Did They Try To Build A House On Orgo's Head?

Key

Solve any inequality below and draw a straight line connecting it to the inequality that describes the solution set. The line will cross a number and a letter. The number tells you where to put the letter in the boxes at the bottom of the page. Keep working and you will discover the answer to the title question.

use a ruler!

① $3x + 8 > 2$	■		■	$x \geq -21$	
② $7x - 1 < 20$	■	⑫	H	■	$x > 5$
③ $8 - 4x > -12$	■	⑥	S	■	$x > -2$
④ $-5x - 9 \geq -4$	■		H	■	$x > -4$
⑤ $63 + 12x < 15$	■		A	■	$x \leq 7$
⑥ $-8x + 25 \leq -31$	■	⑭	I	■	$x < 3$
⑦ $-10 + 2x \geq -52$	■	⑧	H	■	$x \leq -1$
⑧ $15 > 6x - 9$	■	⑤	L	■	$x < 14$
⑨ $48 < 20 - 14x$	■	①	D	■	$x \geq 7$
⑩ $-60 \geq 9x + 3$	■	⑩	O	■	$x \leq -7$?
⑪ $18 - 10x < -22$	■	⑮	N	■	$x > -9$
⑫ $7 < 3x - 8$	■	④	O	■	$x < 5$
⑬ $-12x - 8 \leq 64$	■	③	M	■	$x < 4$
⑭ $-17 > -7x - 45$	■	⑪	I	■	$x > 4$
⑮ $3x - 42 < 0$	■	⑬	E	■	$x \geq -11$
⑯ $44 \geq -8x - 44$	■	⑰	T	■	$x \geq -6$
⑰ $4x + 12 > -24$	■	⑦	A	■	$x < -4$
⑱ $-17 \leq -6x + 25$	■	⑨		■	$x < -2$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
H	E	H	A	D	A	L	O	T	O	N	H	I	S	M	I	N	D

Key

6.3 Why Did They Try to Build a House on Orgo's Head?

$$\begin{aligned} \textcircled{1} \quad 3x + 8 &> 2 \\ 3x &> -6 \\ x &> -2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad 7x - 1 &< 20 \\ 7x &< 21 \\ x &< 3 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad 8 - 4x &> -12 \\ -4x &> -20 \\ x &< 5 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad -5x - 9 &\geq -4 \\ -5x &\geq 5 \\ x &\leq -1 \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad 63 + 12x &< 15 \\ 12x &< -48 \\ x &< -4 \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad -8x + 25 &\leq -31 \\ -8x &\leq -56 \\ x &\geq +7 \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad -10 + 2x &\geq -52 \\ 2x &\geq -42 \\ x &\geq -21 \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad 15 &> 6x - 9 \\ 24 &> 6x \\ 4 &> x \quad (\text{or}) \\ &x < 4 \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad 48 &< 20 - 14x \\ 28 &< -14x \\ -2 &> x \quad (\text{or}) \\ &x < -2 \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad -60 &\geq 9x + 3 \\ -63 &\geq 9x \\ -7 &\geq x \quad (\text{or}) \\ &x \leq -7 \end{aligned}$$

$$\begin{aligned} \textcircled{11} \quad 18 - 10x &< -22 \\ -10x &< -40 \\ x &> 4 \end{aligned}$$

$$\begin{aligned} \textcircled{12} \quad 7 &< 3x - 8 \\ 15 &< 3x \\ 5 &< x \quad \text{or} \quad x > 5 \end{aligned}$$

$$\begin{aligned} \textcircled{13} \quad -12x - 8 &\leq 64 \\ -12x &\leq 72 \\ x &\geq -6 \end{aligned}$$

$$\begin{aligned} \textcircled{14} \quad -17 &> -7x - 45 \\ 28 &> -7x \\ -4 &< x \quad (\text{or}) \\ &x > -4 \end{aligned}$$

$$\begin{aligned} \textcircled{15} \quad 3x - 42 &< 0 \\ 3x &< 42 \\ x &< 14 \end{aligned}$$

$$\begin{aligned} \textcircled{16} \quad 44 &\geq -8x - 44 \\ 88 &\geq -8x \\ -11 &\leq x \quad (\text{or}) \\ &x \geq -11 \end{aligned}$$

$$\begin{aligned} \textcircled{17} \quad 4x + 12 &> -24 \\ 4x &> -36 \\ x &> -9 \end{aligned}$$

$$\begin{aligned} \textcircled{18} \quad -17 &\leq -6x + 25 \\ -42 &\leq -6x \\ 7 &\geq x \quad (\text{or}) \\ &x \leq 7 \end{aligned}$$