Double Inequalities and Integer Solutions

1 Solve $-7 < 2x - 1 \leq 5$

+ 1 to all three parts $-6 < 2x \leq 6$

÷ 2 all three parts $-3 < x \leq 3$

Answer _____

Check: try a value from your answer in the question. Is it true?

_____

2 Solve $2 \leq 3x + 8 < 23$

− 8 from all three parts $-6 \leq 3x < 15$

_____

Answer _____

Check: try a value from your answer in the question. Is it true?

_____

3 Solve $-9 < 4x - 1 < 11$

+ 1 to all three parts _____

÷ 4 all three parts _____

Answer _____

Check: try a value from your answer in the question. Is it true?

_____

4 Solve $5 \leq 5x + 10 \leq 30$

_____

_____

Answer _____

Check: try a value from your answer in the question. Is it true?

_____

5 Solve $-8 \leq 2x - 4 < 3$ and list the integers that satisfy it.

_____

_____

Answer _____

Integers _____ **Check** _____

6 How many integers satisfy $-13 < 3x - 1 < 8$?

_____

_____

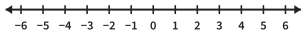
Answer _____

How many? _____ **Check** _____

7 n is an integer. $2n + 5 > 1$ and $3n - 4 \leq 8$. Find all the values of n.

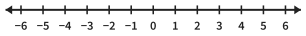
$2n + 5 > 1$

_____



$3n - 4 \leq 8$

_____

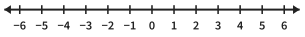


$n =$ _____

8 n is an integer. $4n - 1 < 15$ and $3 - n < 2$. Find all the values of n.

$4n - 1 < 15$

_____



$3 - n < 2$

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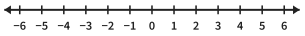

$n =$ _____

Double Inequalities and Integer Solutions *further practice*

9

Solve $-3 < 2x + 1 \leq 7$ and list the integers that satisfy it.

Answer _____

10

Solve $2 < \frac{x+4}{3} \leq 5$.

Answer _____

11

Solve $-3 \leq 7 - 2x < 9$.

Answer _____

12

A fence is made of panels 6 m long and one gate 4 m wide. The fence must be longer than 30 m and at most 52 m. How many panels could it have?

Answer _____

13

A length is 12 cm to the nearest cm. The length is $(2x + 4)$ cm. Find the error interval for x.

Answer _____

14

n is an integer. $3n + 1 \geq n - 5$ and $2n - 7 < 4$. How many possible values of n are there?

Answer _____

15

Sam solves $-4 < 2x + 6 \leq 10$ and gets $-10 < x \leq 4$. Explain his mistake. Write the right answer.

Answer _____

16

Explain why no integer satisfies $9 < 4x + 1 < 13$.

Answer _____