2–2 Name _____ Date _____

Challenge

Inequality Challenge

Here's a way to solve for n when you have an inequality.

Solve $n + 3 > 5$.
Choose from the numbers 0, 1, 2, 3, 4, and 5 for n.

Start trying the numbers on the list. Start with 0.

Try 0.

$0 + 3 > 5$

$3 > 5$

Is the inequality true?
No, it isn't. So try the next number on the list, 1.

Try 1.

_____ $+ 3 > 5$

_____ > 5

Is the inequality true? _____

Keep trying all of the numbers on the list until you find the number or numbers that make the inequality true.

Write the solutions here: $n =$ _____

Now try these. Find n. This time choose from the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

1. $n + 2 < 6$

$n =$ _____

2. $n \div 4 > 1$

$n =$ _____

3. $5n < 10$

$n =$ _____

4. $n + 3 < 7$

$n =$ _____

5. $4 \times n > 8$

$n =$ _____

6. $n \div 1 < 10$

$n =$ _____

7. Predict What would the solution to $n + 3 > 5$ be if you could choose from all whole numbers, instead of just 0, 1, 2, 3, 4, and 5?

_____

_____

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Solve $n + 3 > 5$.
Choose from the numbers 0, 1, 2, 3, 4, and 5 for n.

Start trying the numbers on the list. Start with 0.

Try 0.

$0 + 3 > 5$

$3 > 5$

Is the inequality true?
No, it isn't. So try the next number on the list, 1.

Try 1.

$\underline{1} + 3 > 5$

$\underline{4} > 5$

Is the inequality true? no

Keep trying all of the numbers on the list until you find the number or numbers that make the inequality true.

Write the solutions here: $n =$ 3, 4, or 5

Now try these. Find n. This time choose from the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

1. $n + 2 < 6$

$n =$ 0, 1, 2, or 3

2. $n \div 4 > 1$

$n =$ 5, 6, 7, 8, 9, or 10

3. $5n < 10$

$n =$ 0 or 1

4. $n + 3 < 7$

$n =$ 0, 1, 2, or 3

5. $4 \times n > 8$

$n =$ 3, 4, 5, 6, 7, 8, 9, or 10

6. $n \div 1 < 10$

$n =$ 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9

7. Predict What would the solution to $n + 3 > 5$ be if you could choose from all whole numbers, instead of just 0, 1, 2, 3, 4, and 5?

Sample answer: The solution would be all whole numbers greater than or equal to 3.