**Solving Two-Step Inequalities Notes Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Steps**:

1. Box the variable and draw the line.
2. Add or Subtract.
3. Check to see if the number that is now with the variable is negative.
4. Multiply or divide to solve.
5. Ask yourself, “Did I need to flip my inequality?”

Examples:

1)  – 6 > 1 2)  + 8 ≤ 5

3) 4y – 5 < 11 4) –3x + 5 ≥ -4

**You try: Solve. Then graph on the number line.**

1) 7s + 14 > -35 2)  + 12 > 20

3) 18n – 22 ≤ 32 4)

5) A cyclist has $7. At the first stop on the tour, energy bars are $1.15 each, and a sports drink is $1.75. What is the greatest number of energy bars the cyclist can buy if he buys one sports drink?

**PRACTICE:** *Solve each two-step inequality.*

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| --- | --- | --- |
| 1.) -9x – 8 > 28 | 2.) 12 – 3x < 9 | 3.)  + 5 ≥ 9 |
| 4.) -4 ≥ 4(-x + 2) | 5.)  + 4 ≥ 9 | 6.) -15 +  ≤ -12 |

*Identify the accurate simplified inequality.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. -67 3n – 16 | |  |  | | --- | --- | | A. | n -17 | | B. | n -17 | | C. | n 17 | | D. | n17 | | 8. -4n – 7 > -19 | |  |  | | --- | --- | | A. | n 3 | | B. | n 3 | | C. | n -3 | | D. | n -3 | |

Solve each inequality. Match it to the appropriate graph in the final column.

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| --- | --- | --- | --- |
| 9. -4 +  -2 | 10. -1 + 4x 23 | A. |  |
| B. |  |
| 11. 49 -5 + 6x | 12. -3n - 3 9 | C. |  |
| D. |  |