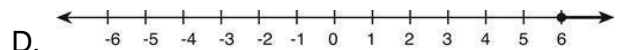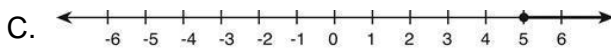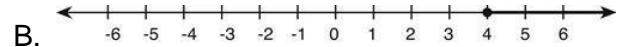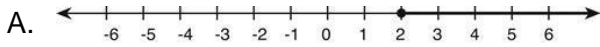*Do not use a calculator for problems that say "NO CALCULATOR." You may use a calculator for all other problems.*

1. Simplify: $5(x + 2) - 7(x + 2)$?

2. Which expression is equivalent to $3(4x + 10 \div 2 + 3)$?

   A. $12x + 2$

   B. $12x + 8$

   C. $12x + 24$

   D. $12x + 6$

3. Simplify: $7w - 7z + 4w - 5z$?

4. In a high school basketball game, Sarah scored 10 points in the first half of the game. In the second half, Sarah scored only 3-point shots. Sarah scored a total of 31 points during the entire game. How many 3-point shots did Sarah make in the second half? **You must write and solve an equation to receive credit.**

5. Julio went on his first airplane ride. The plane was flying at 600 kilometers per hour relative to the surrounding air. The wind was moving the surrounding air backwards relative to the ground below at 30 kilometers per hour. Julio was walking forward to the front of the airplane at 2 kilometers per hour. Julio wondered how fast he was moving relative to the ground below. Which number sentence correctly shows the speed in kilometers per hour, S, at which Julio is moving relative to the ground?

   B. $S = 600 + 30 - 2$ C. $S = 600 - 30 - 2$ D. $S = 600 - 30 + 2$

   A. $S = 600 + 30 + 2$

6. Mr. Daniels sells memberships to a fitness club. He earned $360 for selling 6 memberships. Mr. Daniels earned $540 for selling 9 memberships. Which equation represents this situation, where m represents the number of memberships Mr. Daniels sold and e represents the amount he earned?

   A. $m = 60e$

   B. $e = 60m$

7. A taxi charges $3, plus $1.50 for each mile traveled. Mr. Lewis rode in the taxi from his home to the airport and was charged $30. How many miles does Mr. Lewis live from the airport? **You must write and solve an equation to receive credit.**

8. Mrs. Jimenez took $10.00 to a store. She spent $4.25 for fruit. She also bought a box of cereal. She received $3.90 in change. The equation below can be used to find the amount of money, x, Mrs. Jimenez spent on the box of cereal.

   $10 - (4.25 + x) = 3.90$ How much did Mrs. Jimenez spend on the box of cereal?

9. Jessica is saving money for a bike that costs $118.50, including tax. She has $45 and saves an additional $3.50 each week. How many weeks will Jessica take to save $118.50? **You must write and solve an equation to receive credit.**

10. What is the value of x if $4x - 9 = 11$?

11. Talk Time Phone Company charges $0.12 per minute of phone use plus a monthly service fee of $8.00 for its phone service. If a customer's bill for the month is $38.00, how many minutes did the customer use the phone? **You must write and solve an equation to receive credit.**

12. What is the value of x if $5x + 65 = 25$? **NO CALCULATOR.**

13. What is the value of x in the equation $^-2 = 5x + 3$? **NO CALCULATOR**

14. Which of the following number lines represents the solution to the inequality $2x + 2 \geq 10$?

A.   B.

C.   D.

15. To repair Tom's car the cost of parts is $260 and it will take 4 hours of work. If x represents the labor cost per hour and Tom needs to keep the total $400 or less, what is the highest labor cost per hour that he can afford? **You must write and solve an inequality to receive credit.**

16. What are all the possible values of x that satisfy $\dfrac{x}{4} + 8 > 24$?

17. What are all possible values of x if $\dfrac{x}{3} + 7 > 28$?

18. Which inequality is equivalent to the statement, 'a number, n, decreased by 2 is greater than or equal to 8'?

A. $n \leq 6$ B. $n \geq 6$ C. $n \leq 10$ D. $n \geq 10$

19. In the inequality below, y represents the number of hand tools that can be rented at a hardware store each day.
$2y + 12 \leq 290$
Which phrase best describes the number of hand tools the store rents each day?

A. less than 139 hand tools   B. at most 139 hand tools

C. exactly 139 hand tools   D. more than 139 hand tools

20. A cookie recipe requires $\dfrac{3}{4}$ cup of flour to make $1\dfrac{1}{2}$ dozen cookies. How much flour is needed to make 1 dozen cookies? **NO CALCULATOR.**

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