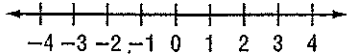


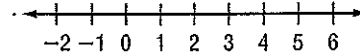
1-5**Practice****Solving Inequalities**

Solve each inequality. Describe the solution set using set-builder or interval notation. Then, graph the solution set on a number line.

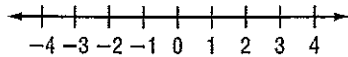
1. $8x - 6 \geq 10$



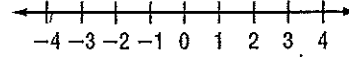
2. $23 - 4u < 11$



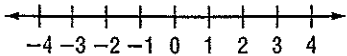
3. $-16 - 8r \geq 0$



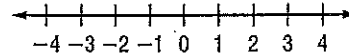
4. $14s < 9s + 5$



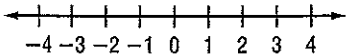
5. $9x - 11 > 6x - 9$



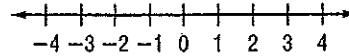
6. $-3(4w - 1) > 18$



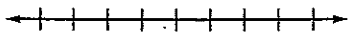
7. $1 - 8u \leq 3u - 10$



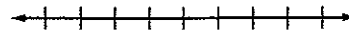
8. $17.5 < 19 - 2.5x$



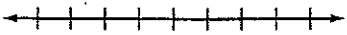
9. $9(2r - 5) - 3 < 7r - 4$



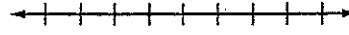
10. $1 + 5(x - 8) \leq 2 - (x + 5)$



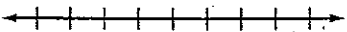
11. $\frac{4x - 3}{2} \geq -3.5$



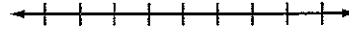
12. $q - 2(2 - q) \leq 0$



13. $-36 - 2(w + 77) > -4(2w + 52)$



14. $4n - 5(n - 3) > 3(n + 1) - 4$



Define a variable and write an inequality for each problem. Then solve.

15. Twenty less than a number is more than twice the same number.

16. Four times the sum of twice a number and -3 is less than 5.5 times that same number.

17. **HOTELS** The Lincoln's hotel room costs \$90 a night. An additional 10% tax is added. Hotel parking is \$12 per day. The Lincoln's expect to spend \$30 in tips during their stay. Solve the inequality $90x + 90(0.1)x + 12x + 30 \leq 600$ to find how many nights the Lincoln's can stay at the hotel without exceeding total hotel costs of \$600.

18. **BANKING** Jan's account balance is \$3800. Of this, \$750 is for rent. Jan wants to keep a balance of at least \$500. Write and solve an inequality describing how much she can withdraw and still meet these conditions.

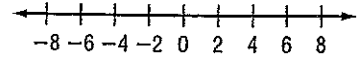
1-6

Practice

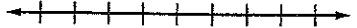
Solving Compound and Absolute Value Inequalities

Write an absolute value inequality for each of the following. Then graph the solution set on a number line.

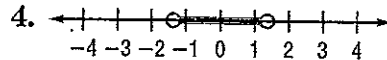
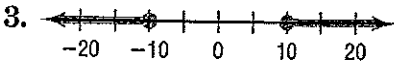
1. all numbers greater than 4 or less than -4



2. all numbers between -1.5 and 1.5, including -1.5 and 1.5

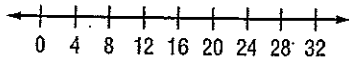


Write an absolute value inequality for each graph.

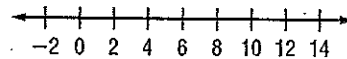


Solve each inequality. Graph the solution set on a number line.

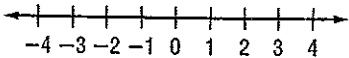
5. $-8 \leq 3y - 20 < 52$



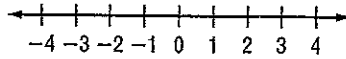
6. $3(5x - 2) < 24$ or $6x - 4 > 4 + 5x$



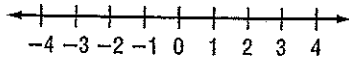
7. $2x - 3 > 15$ or $3 - 7x < 17$



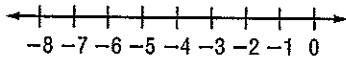
8. $15 - 5x \leq 0$ and $5x + 6 \geq -14$



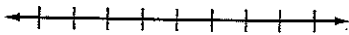
9. $|2w| \geq 5$



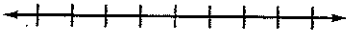
10. $|y + 5| < 2$



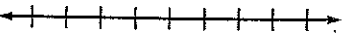
11. $|x - 8| \geq 3$



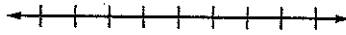
12. $|2z - 2| \leq 3$



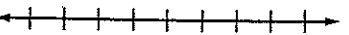
13. $|2x + 2| - 7 \leq -5$



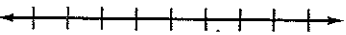
14. $|x| > x - 1$



15. $|3b + 5| \leq -2$



16. $|3n - 2| - 2 < 1$



17. **RAINFALL** In 90% of the last 30 years, the rainfall at Shell Beach has varied no more than 6.5 inches from its mean value of 24 inches. Write and solve an absolute value inequality to describe the rainfall in the other 10% of the last 30 years.

18. **MANUFACTURING** A company's guidelines call for each can of soup produced not to vary from its stated volume of 14.5 fluid ounces by more than 0.08 ounces. Write and solve an absolute value inequality to describe acceptable can volumes.

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