

Name: _____

Date: _____

Algebra 1

Band: _____

LT#5: Solve and graph inequalities containing the word *and*.**Write a compound inequality that represents each phrase. Graph the solutions.**

1. The time a cake must bake is between 25 minutes and 30 minutes, inclusive.

Solve each compound inequality. Graph your solutions.

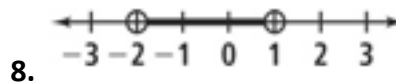
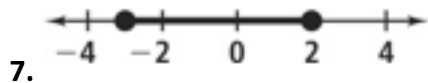
2. $5 < k - 2 < 11$

3. $-4 > y + 2 > -10$

4. $2 < 2p - 3 \leq 12$

5. $3 > \frac{11+k}{4} \geq -3$

6. $4 \leq y + 2 \leq -3(y - 2) + 2$

Write a compound inequality that each graph could represent.**Solve each compound inequality.**

9. $3 > -0.25v > -2.5$

10. $-\frac{3}{2} \leq \frac{5}{6}w - \frac{3}{4} \leq 2$

11. The absorbency of a certain towel is considered normal if the towel is able to hold between six and eight mL. The first checks for materials result in absorbency measures of 6.2 mL and 7.2 mL. What possible values for the third reading m will make the average absorbency normal?

LT#6: Solve and graph inequalities containing the word *or*.

Write a compound inequality that represents each phrase. Graph the solutions.

12. All real numbers that are less than -3 or greater than or equal to 5 .

Solve each compound inequality. Graph your solutions.

13. $6b - 1 \leq 41$ or $2b + 1 \geq 1$

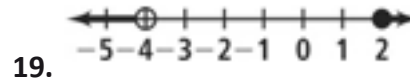
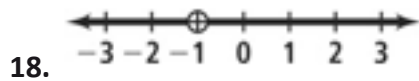
14. $5 - m < 4$ or $7m > 35$

15. $3d + 3 \leq -1$ or $5d + 2 \geq 12$

16. $9 - c < 2$ or $-3c > 15$

17. $5z + 3 < -7$ or $-2z - 6 > -8$

Write a compound inequality that each graph could represent.



Solve each compound inequality.

20. $3r + 2 < 5$ or $7r - 10 > 60$

21. $\frac{y-2}{2} - 5 \leq 3$ or $\frac{1+2y}{3} \geq 41$

22. A family is comparing different car seats. One car seat is designed for a child up to and including 30 lb. Another car seat is designed for a child between 15 lb and 40 lb. A third car seat is designed for a child between 30 lb and 85 lb, inclusive. Model these ranges on a number line. Represent each range of weight using interval notation. Which car seats are appropriate for a 32-lb child?

Write each interval as an inequality. Then graph the solutions.

23. $(-1,10]$

24. $[-3,3]$

25. $(\infty, 0]$ or $(5, \infty)$

26. $[3, \infty)$

27. $(-\infty, 4)$

28. $[25,50)$

Write each inequality or set in interval notation. Then graph the interval.

29. $x < -2$

30. $x > 0$

31. $x < -2$ or $x \geq 1$

32. $-3 \leq x < 4$