Name Key Date _____ Class _____

LESSON 12-4

Practice B

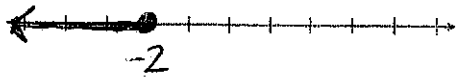
Inequalities

Write an inequality for each situation.

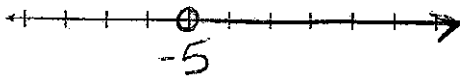
1. The temperature today will be at most 50°F. $x \leq 50$
2. The temperature tomorrow will be above 70°F. $x > 70$
3. Yesterday, there was less than 2 inches of rain. $x < 2$
4. Last Monday, there was at least 3 inches of rain. $x \geq 3$

Graph each inequality.

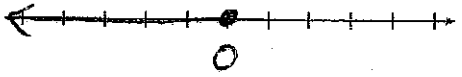
5. $t \leq -2$



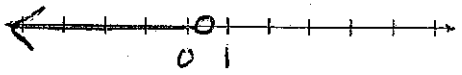
6. $j > -5$



7. $y \leq 0$

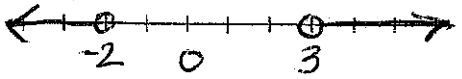


8. $b < \frac{1}{2}$

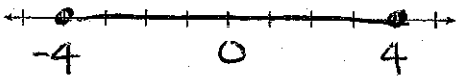


Graph each compound inequality.

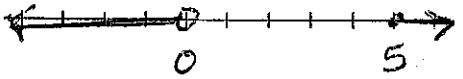
9. $f > 3$ or $f < -2$



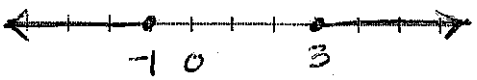
10. $-4 \leq w \leq 4$



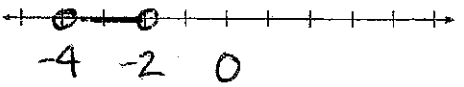
11. $b < 0$ or $b \geq 5$



12. $y \geq 3$ or $y \leq -1$



13. $-4 < m < -2$



Name _____ Date _____ Class _____

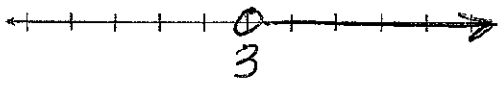
LESSON 12-5

Practice B

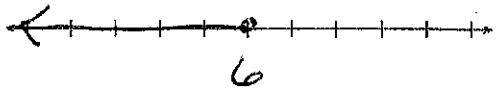
Solving Inequalities by Adding or Subtracting

Solve. Then graph each solution set on a number line.

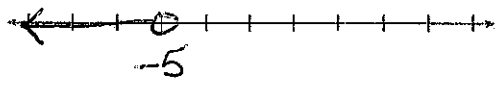
1. $y - 5 > -2$ $y > 3$



2. $n + 5 \leq 11$ $n \leq 6$

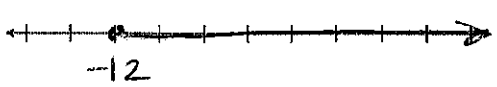


3. $x + 4 < -1$ $x < -5$

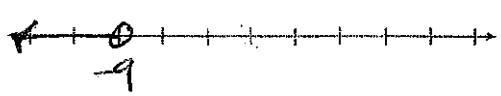


4. $h + 20 > 2$ $h > -18$

5. $p + 9 \geq -3$ $p \geq -12$



6. $s - 7 < -16$ $s < -9$



Solve. Check each answer.

7. $41 + g > 27$ $g > -14$

8. $w + 23 \geq -18$ $w \geq -41$

9. $a + 15 \leq 9$ $a \leq -6$

10. $z + 27 < 16$ $z < -11$

11. $-3 \leq t + 17$ $t \geq -20$

12. $78 \geq b + 64$ $b \leq 14$

13. In order for a field trip to be scheduled, at least 30 students must sign up. So far, 23 students have signed up. At least how many more students must sign up in order for the field trip to be scheduled?

$x + 23 \geq 30$ $x \geq 7$ at least 7 students

Name _____ Date _____ Class _____

LESSON 12-6

Practice B

Solving Inequalities by Multiplying or Dividing

Solve.

1. $\frac{n}{5} \leq 1.6$ — $n \leq 8$

2. $\frac{b}{3} > -8$ — $b > -24$

3. $\frac{a}{3} \geq -9$ — $a \geq -27$

4. $\frac{t}{-6} < -7$ — $t > 42$

5. $\frac{s}{-12} \leq -5$ — $s \geq 60$

6. $\frac{r}{5.3} \leq 6$ — $r \leq 31.8$

Solve. Check each answer.

7. $8c < -64$ — $c < -8$

8. $-16a \geq -24$ — $a \leq 1\frac{1}{2}$

9. $-12t > 9$ — $t < -\frac{3}{4}$

10. $-3s \leq -180$ — $s \geq 60$

11. $18b > -24$ — $b > -1\frac{1}{3}$

12. $-6m \geq 4$ — $m \leq -\frac{2}{3}$

13. It cost Sophia $530 to make wind chimes. How many wind chimes must she sell at $12 apiece to make a profit?

$12x > 530$ at least 45 chimes

14. It cost the Wilson children $55 to make lemonade. How many glasses must they sell at 75¢ each to make a profit?

$.75x > 55$ at least 74 glasses

15. Jorge's soccer team is having its annual fund raiser. The team hopes to earn at least three times as much as it did last year. Last year the team earned $87. What is the team's goal for this year?

$(3)87 \leq x$ at least $261

Name _____ Date _____ Class _____

LESSON 12-7

Practice B

Solving Two-Step Inequalities

Solve. Then graph each solution set on a number line.

1. $5x - 8 < 17$ $x < 5$

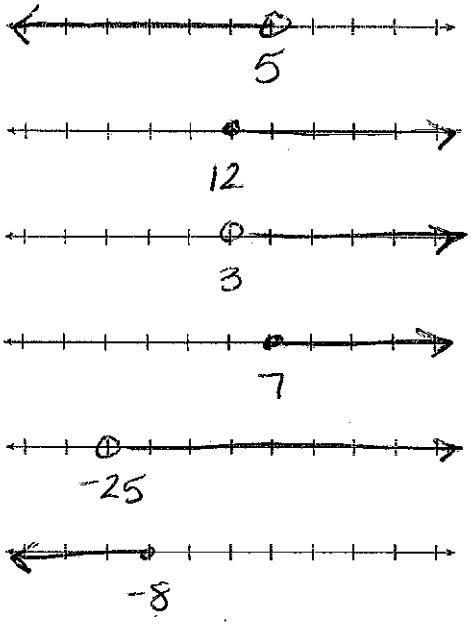
2. $\frac{r}{3} + 5 \geq 9$ $r \geq 12$

3. $-4n + 8 < -4$ $n > 3$

4. $\frac{z}{7} - 6 \geq -5$ $z \geq 7$

5. $\frac{w}{-5} + 4 < 9$ $w > -25$

6. $\frac{u}{2} - 5 \leq -9$ $u \leq -8$



Solve.

7. $-7d + 8 > 29$ $d < -3$

8. $4g - 18 \leq -2$ $g \leq 4$

9. $12 - 3b < 9$ $b > 1$

10. $\frac{a}{-4} - 7 < -2$ $a > -20$

11. $9 + \frac{c}{6} \leq 17$ $c \leq 48$

12. $-\frac{2}{3}p - 8 \geq 4$ $p \leq -18$

13. Fifty students in the seventh grade are trying to raise at least $2,000 for sports supplies. They have already raised $750. How much should each student raise, on average, in order to meet the goal?

$50x + 750 \geq 2{,}000$ $x \geq 25$

at least $25