Algebra 1

## Write the sentence as an inequality.

1. 6 is no more than the quotient of a number $x$ and 7 .
2. 12 is less than the sum of a number and 15 .

Matching. Match the verbal model on the left to the inequality on the right.

| 3.__ The product of a number $y$ and 3 is greater than 9. | a. $\frac{y}{3} \geq 9$ |
| :--- | :--- |
| 4.__ The quotient of a number $y$ and 3 is at least 9. | b. $y+3>9$ |
| 5.__ 3 less than a number $y$ is greater than or equal to 9. | c. $3 y>9$ |
| 6.__ The sum of a number $y$ and 3 is more than 9. | d. $y-3 \geq 9$ |
| 7.__ The difference of $y$ and 3 is less than or equal to 9. | e. $y-3 \leq 9$ |

Write the inequality that represents the graph.

| 8. |  |
| :---: | :---: |
| 9. |  |
| 10. |  |
| 11. |  |

Graph the inequality.

| 12. $x>-5$ |  |
| :---: | :---: |
| 13. $2 \geq x$ | $\begin{array}{\|ccccccccccccccccc} \leftarrow & + & 1 & + & 1 & 1 & + & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \end{array}$ |
| 14. $x \geq-3$ |  |
| 15. $0>x$ |  |

Solve each inequality, showing all steps. Do not graph.
16. $4+\mathrm{t} \leq 8$
17. $\mathrm{m}-(-10)<15$

| 18. $-4 \mathrm{q} \geq 16$ | 19. $15>\frac{\mathrm{r}}{2}$ |
| :--- | :--- |
| 20. $\frac{2}{3} m+2 \leq 6$ | 21. $-6 c+5>65$ |
| 22. $20 \geq 3 \mathrm{y}-4$ | $23 .-3 \mathrm{x}-1<5$ |
| $24.2 x+7 \geq x-8$ | $25.3 x-18>-x+6$ |
| $26.2(3 \mathrm{x}+1) \leq 6 \mathrm{x}+9$ |  |

27. Grady is driving through a construction zone and sees these two signs at the side of the road. Write and graph two inequalities that describe the speed that Grady can drive and the possible fines that Grady could have if he passes the speed limit.

28. You must maintain a minimum balance of $\$ 60$ in your bank account. You currently have $\$ 280$ in your account. An ATM allows you to take out money in $\$ 20$ bills only. Write and solve an inequality that represents how many $\$ 20$ bills you can withdraw without going below your minimum balance.
