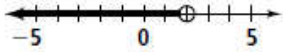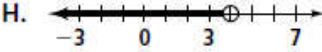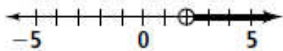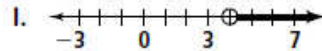## 3-4 Standardized Test Prep

Solving Multi-Step Inequalities

Multiple Choice

For Exercises 1–6, choose the correct letter.

1. What is the solution of $6w - 8 \geq 22$?

A. $w > \frac{7}{3}$ B. $w \geq \frac{7}{3}$ C. $w > 5$ D. $w \geq 5$

2. What is the solution of $2(y + 5) + 7y \leq 19$?

F. $y < 1$ G. $y \leq 1$ H. $y > 1$ I. $y \geq 1$

3. What is the solution of $25 > -3(4n - 3)$?

A. $n < -\frac{4}{3}$ B. $n < \frac{4}{3}$ C. $n > -\frac{4}{3}$ D. $n > \frac{4}{3}$

4. Which graph represents all of the solutions of $-12 > -k - (3k + 4)$?

F.

H.

G.

I.

5. You have already saved $55. You earn $9 per hour at your job. You are saving for a bicycle that costs $199. What inequality represents the possible numbers of hours you need to work to buy the bicycle?

A. $h < 16$ B. $h \leq 16$ C. $h \geq 16$ D. $h > 16$

6. Admission to the fair costs $7.75. Each ride costs you $.50. You have $15 to spend at the fair including admission. Which inequality represents the possible numbers of rides you can ride?

F. $r > 14$ G. $r < 14$ H. $r \leq 14$ I. $r \leq 15$

Short Response

7. The perimeter of a rectangle is at least 32 cm. The length of the rectangle is 9 cm. What are the possible widths of the rectangle? Show your work.

Solve each inequality. Check your solutions.

1. $3f + 9 < 21$

2. $12 > 60 - 6r$

3. $4n - 3 \geq 105$

Solve each inequality.

4. $-x + 2 < 3x - 6$

5. $2(k + 4) - 3k \leq 14$

Solve each inequality, if possible. If the inequality has no solution, write *no solution*. If the solutions are all real numbers, write *all real numbers*.

6. $6w + 5 > 2(3w + 3)$

7. $-5r + 15 \geq -5(r - 2)$

BONUS
Question

8. A grandmother says her grandson is two years older than her granddaughter and that together, they are at least 12 years old. How old are her grandson and granddaughter?