Graphing Linear Inequalities Practice

Choose one answer per question. Circle A, B, C, or D.

1. Which boundary line belongs on a graph of $y \geq x + 6$?
   A. Solid line $y = x + 6$
   B. Dashed line $y = x + 6$
   C. Solid line $y = x - 6$
   D. Dashed line $y = x - 6$

2. Which graph represents $y < -2x + 7$?
   A. Solid boundary $y = -2x + 7$ with shading below it
   B. Dashed boundary $y = -2x + 7$ with shading above it
   C. Dashed boundary $y = -2x + 7$ with shading below it
   D. Solid boundary $y = -2x + 7$ with shading above it

3. A graph has a dashed horizontal line at $y = -3$, with the region above the line shaded. Which inequality does it represent?
   A. $y \geq -3$
   B. $y > -3$
   C. $y < -3$
   D. $y \leq -3$

4. Which point belongs to the solution region of $y \leq 2x - 5$, including its boundary?
   A. $(1, -2)$
   B. $(3, 2)$
   C. $(2, 0)$
   D. $(4, 3)$

5. A solid line has equation $x + y = 3$, and the shaded side contains $(0, 5)$. Which inequality represents the graph?
   A. $x + y > 3$
   B. $x + y \geq 3$
   C. $x + y \leq 3$
   D. $x + y < 3$

6. A dashed line passes through $(-4, 2)$ and $(-4, -5)$. The shaded side contains $(-6, 0)$. Which inequality represents this graph?

A. $x < -4$
B. $x \leq -4$
C. $x > -4$
D. $x \geq -4$

7. A student wants an off-boundary test point for $2x - 3y \geq 0$. Which point can the student use to decide which side to shade?

A. $(-3, -2)$
B. $(0, 0)$
C. $(3, 2)$
D. $(3, 1)$

8. Which inequality describes the same solution region as $3x - 2y < 8$?

A. $y > (3/2)x + 4$
B. $y < (3/2)x - 4$
C. $y > (3/2)x - 4$
D. $y < (3/2)x + 4$

9. A solid boundary line passes through $(0, -2)$ and $(4, 0)$. The shaded region includes $(0, 1)$. Which inequality describes the graph?

A. $y \geq x/2 - 2$
B. $y \leq x/2 - 2$
C. $y \geq 2x - 2$
D. $y > x/2 - 2$

10. For $5x + 2y > 6$, a student drew the correct boundary equation, $5x + 2y = 6$, as a solid line. They shaded the side containing $(0, 0)$. What should change?

A. Keep a solid line and keep the same shading.
B. Draw a dashed line and keep the same shading.
C. Keep a solid line and shade the opposite side.
D. Draw a dashed line and shade the opposite side.

11. Which point is in the common solution region for $x \leq 4$, $y > 1$, and $2x + y \leq 13$?

A. $(1, 1)$
B. $(4, 6)$
C. $(4, 5)$
D. $(5, 3)$

12. Where do the shaded regions for $y \geq 2x + 1$ and $y < 2x - 2$ overlap?

A. They overlap in the strip between the two lines.
B. They have no points in common.
C. They overlap on the line $y = 2x + 1$ only.
D. They overlap everywhere above $y = 2x + 1$.

13. The inequalities $x \geq 1$, $y \geq 2$, and $x + 2y \leq 9$ outline a closed triangle. Which list gives its three vertices?

A. (1, 2), (0, 4.5), (9, 0)
B. (1, 2), (1, 5), (4, 2)
C. (1, 2), (1, 8), (7, 2)
D. (1, 2), (1, 4), (5, 2)

14. A library needs at least 9 activity kits. A small kit uses 3 sheets of card and a large kit uses 5. There are 38 sheets available. If the library makes exactly 4 small kits, how many large kits meet both conditions?

A. 5 large kits
B. 3 large kits
C. 4 large kits
D. 6 large kits

15. For which real values of x can some y satisfy both $y > 3x - 4$ and $y \leq -x + 8$?

A. $x > 3$
B. $x \leq 3$
C. $x < 3$
D. $x \geq 3$