Practice B
For use with pages 432–438

Match the system of linear inequalities with its graph.

A. $x + 2y \leq 2$
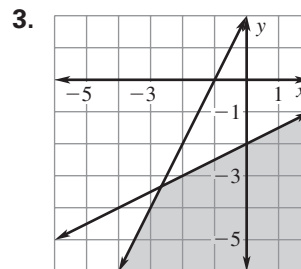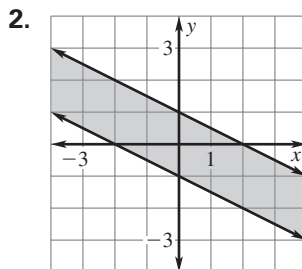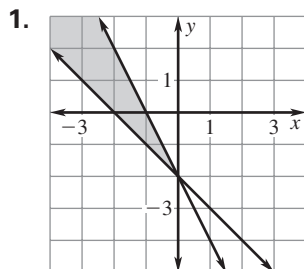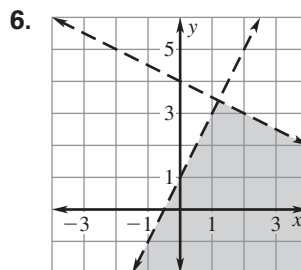$x + 2y \geq -2$

B. $x - 2y \geq 4$
$2x - y \geq -2$

C. $2x + 2y \geq -4$
$-2x - y \geq 2$

1.

2.

3.

Write a system of linear inequalities that defines the shaded region.

4.

5.

6.
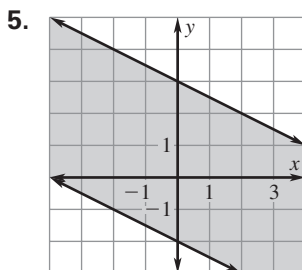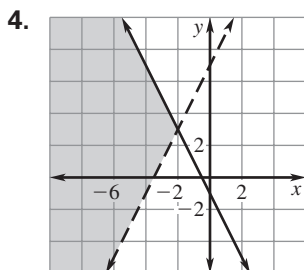
Graph the system of linear inequalities.

7. $4x + 2y \geq -6$
$8x + y < 3$

8. $2x + 3y < 1$
$2x + 3y > -9$

9. $3x - 6y > 2$
$3x - y \geq 2$

10. $x \leq 0$
$y \geq 0$
$y \leq 5$
$x > -6$

11. $2x + y \leq 4$
$-3x + y < 3$
$y \geq -4$

12. $x + y < 3$
$-x - 3y \leq 2$
$2x + \frac{1}{4}y > -1$

Plot the points and draw line segments connecting the points to create the polygon. Then write a system of linear inequalities that defines the polygonal region.

13. Rectangle: $(-1, 5), (-1, -1), (3, -1), (3, 5)$

14. Triangle: $(-2, 4), (4, 1), (-2, -1)$

15. *Study Time*   You need at least 3 hours to do your English and history homework. It is 12:30 P.M. on Sunday and your friend wants you to go to the movies at 7:00 P.M. Write a system of linear inequalities that shows the number of hours you could spend doing homework for each subject if you go to the movies. Graph your result.

16. *Ordering Cups*   You work at a frozen yogurt shop during the summer. You need to order 5-ounce and 8-ounce cups. The storage room will only hold 10 more boxes. A box of 5-ounce cups costs $100 and a box of 8-ounce cups costs $150. A maximum of $1250 is budgeted for yogurt cups. Write a system of linear inequalities that shows the number of boxes of 5-ounce and 8-ounce cups that could be bought. Graph your result.