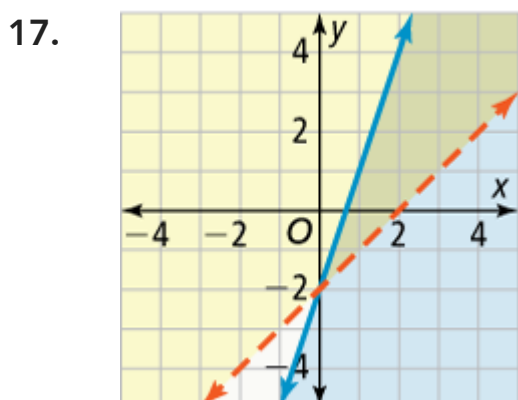
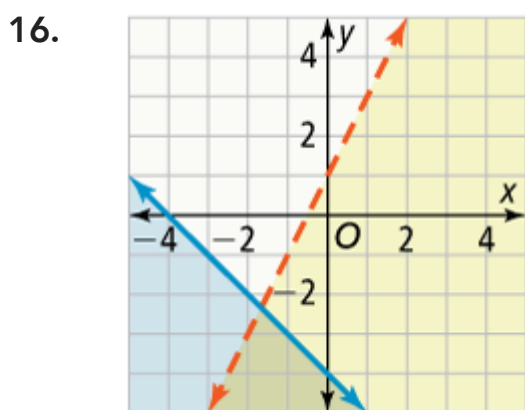
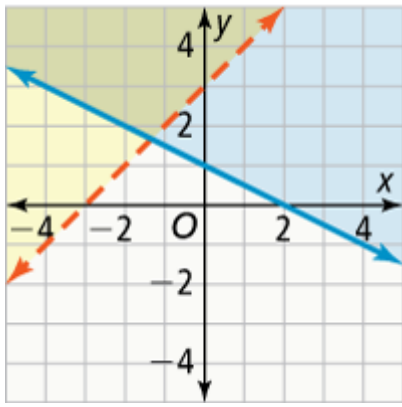


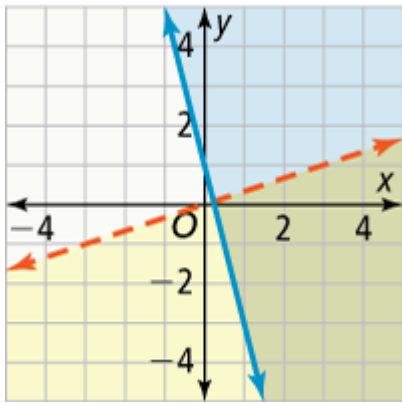
10. Answers may vary. Sample: A real-world situation best described by a system of linear inequalities has multiple constraints. A real-world situation best described by one linear inequality has one constraint.
11. The student used the wrong inequality symbol in writing the second inequality. Instead of $y < -2x + 2$, it should be $y > -2x + 2$.
12. Answers may vary. Sample: A system of two linear inequalities is similar to a system of two linear equations because their solutions are determined by where the graphs of the inequalities or equations in the system intersect or overlap. They are different because a system of linear equations has infinitely many solutions when the two equations in the system are equivalent. A system of linear inequalities can have infinitely many solutions even when the inequalities are not equivalent.
13. $x \geq 0$ and $y \geq 0$; Answers may vary. Sample: These inequalities indicate that all values of x and y must be 0 or positive; thus, they limit the solutions to the first quadrant.
14. Yes; Answers may vary. Sample: for example, there is no region where all 3 planes overlap for the system $y > x + 2$, $y < x - 2$, $y < x - 4$. So, there is no solution to the system.
15. Yes; Answers may vary. Sample: $y \geq 1$, $y \leq 3$, $x \geq 1$, $x \leq 3$



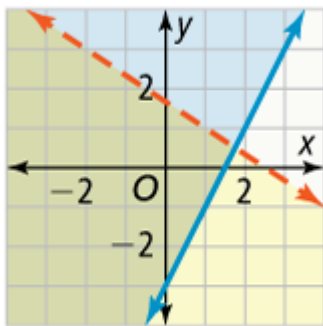
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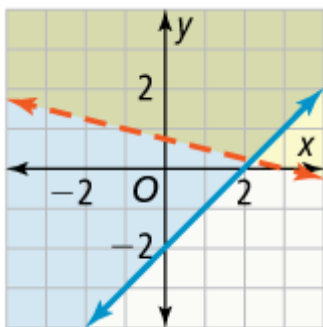
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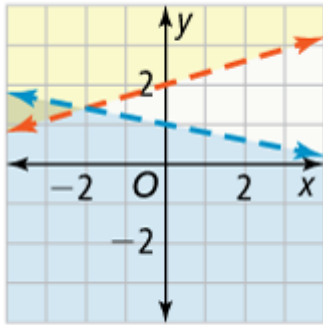
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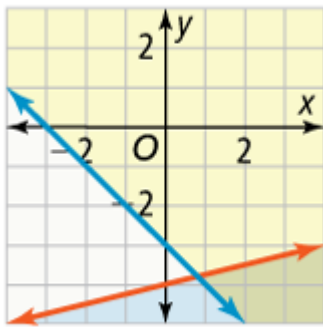
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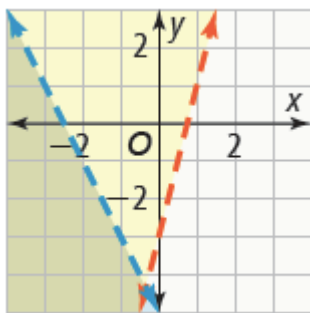
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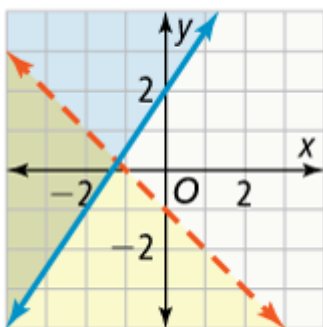
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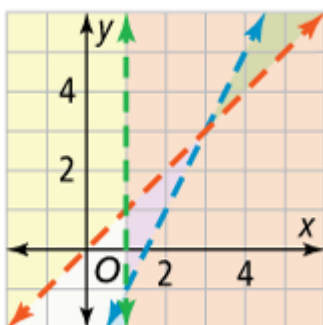
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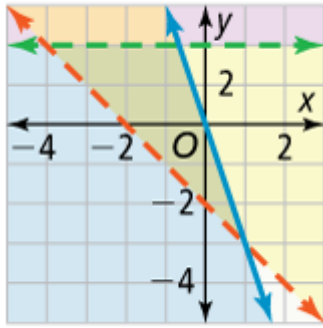
25.



26.



27.



28. $y < -\frac{2}{3}x + 2$

$y > x - 3$

29. $y \geq -\frac{1}{4}x - 2$

$y < 2x + 4$

30. $y \geq 3x$

$y > -x + 3$

31. $y \leq -x + 4$

$y \geq 4x - 9$

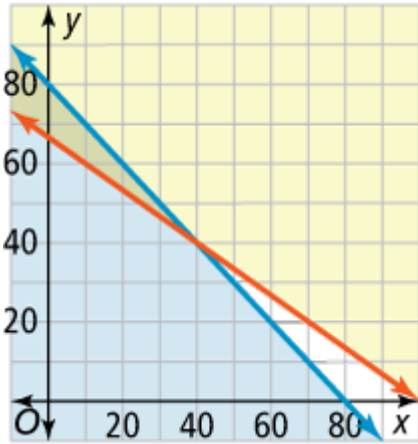
$x < 2$

32. $x + y \leq 10$ and $5x + 4y \leq 45$



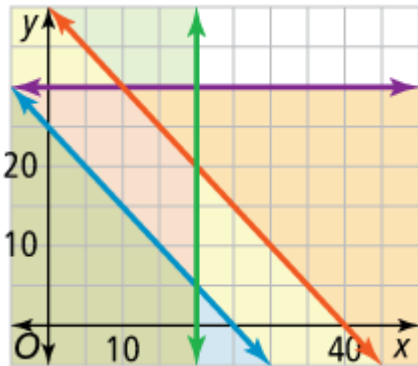
Answers may vary. Sample: They could purchase 4 tickets in section A and 6 in section B, or 5 in section A and 5 in section B, or 2 in section A and 8 in section B.

33. $x + y \leq 80$ and $10x + 15y \geq 1,000$



The fewest number of hours she can work is 0 hours babysitting, and $66\frac{2}{3}$ hours providing tech support.

34. $x + y \leq 40$, $x \leq 20$, $y \leq 30$, and $x + y \geq 25$



If he wants to make more hats than scarves, the system is defined by an additional inequality $x \geq y$. This will reduce the number of possible solutions.

35. Neither graph is correct. The boundary lines for both inequalities have positive slopes, and both graphs shown have a boundary line with a slope that is negative.

36. $>$; 2 ; \geq

37. C

38. Part A $x + y \leq 12$, $x < 8$, $y \geq 2$, and $y \leq 5$

Part B



Yes, there a minimum number of hours he will be doing cardio. The image on the watch shows that he wants to do cardio between 2 and 5 hours each week, inclusive. So, the minimum hours he will be doing cardio is 2.