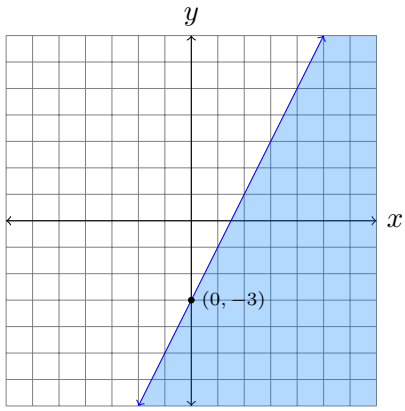
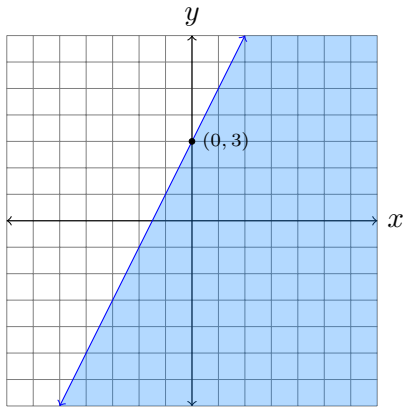
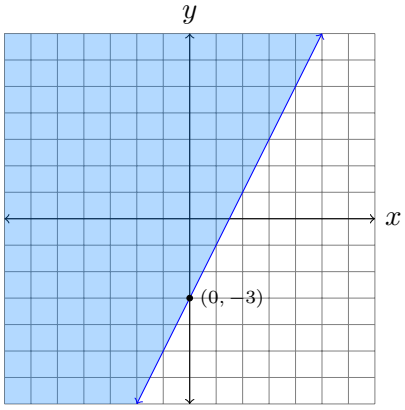
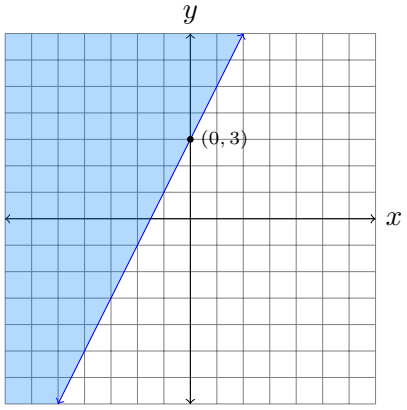
COLLEGE ALGEBRA QUIZ

(1) which of the following is the graph of the inequality, $y \leq 2x - 3$
Solution: (a)

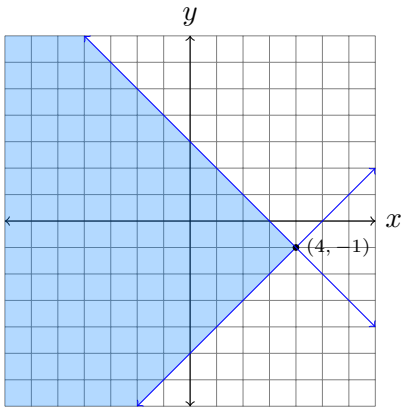
(a)


(b)


(c)


(d)


(2) $x - y \leq 5$, $x + y \leq 3$
Solution: (a)

(a)


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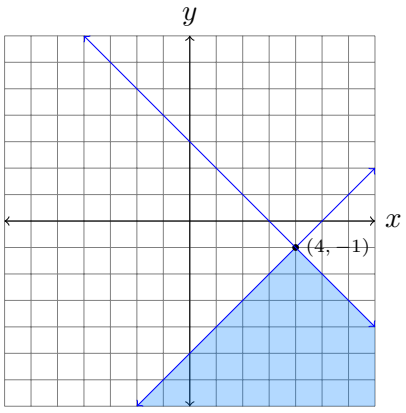

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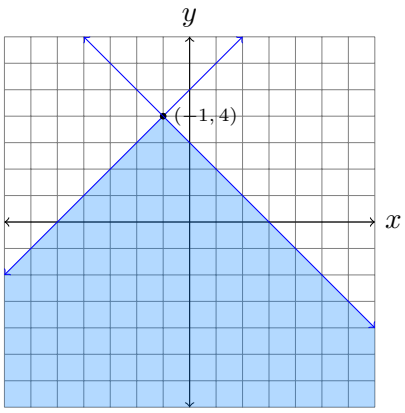
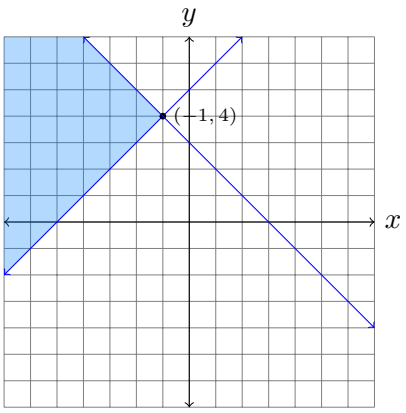
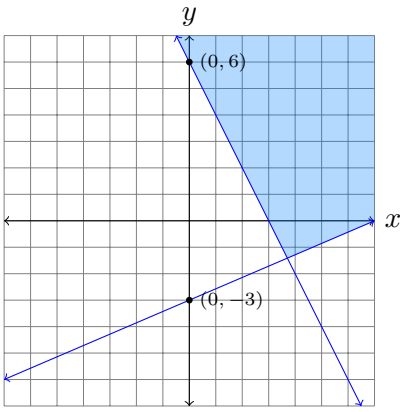


(d)


(3) $2x + y \geq 6$, $3x - 7y \leq 21$
Solution: (a)

(a)


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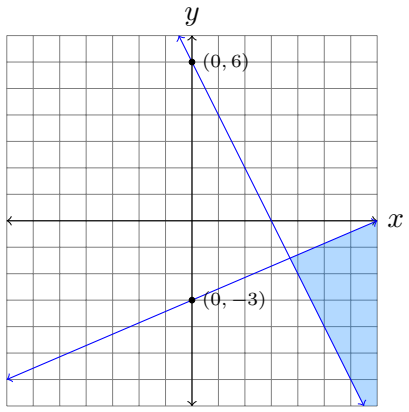
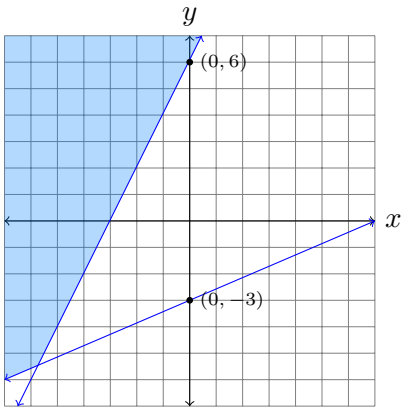


• (0, 6)

(c)


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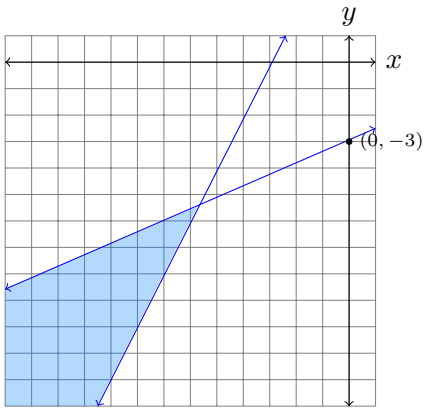
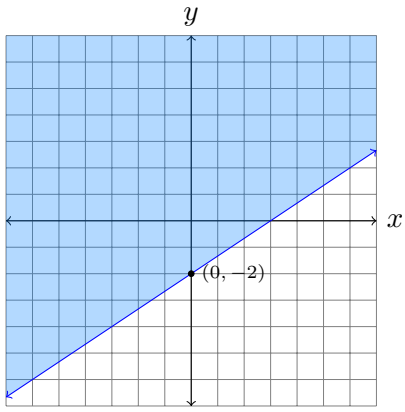


(4) $2x - 3y \leq 6$
Solution: (a)

(a)


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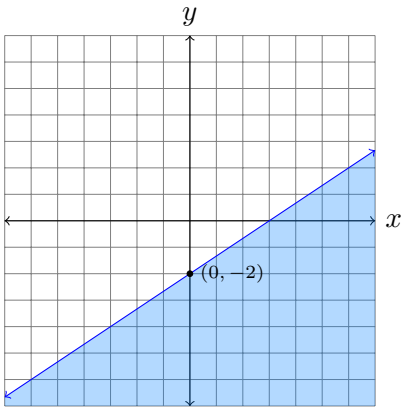

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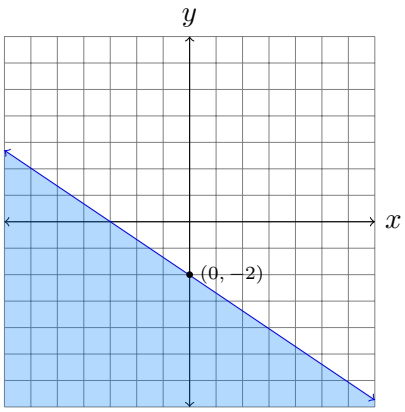

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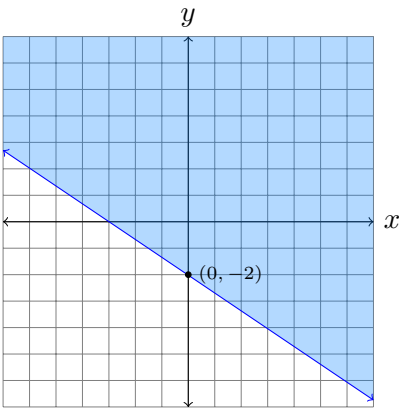
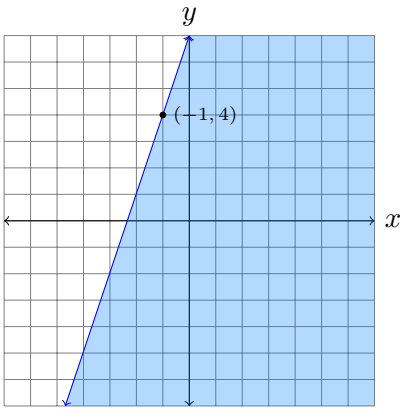


(5) Which of the following is the graph of $y \leq 3x + 7$?
Solution: (a)

(a)


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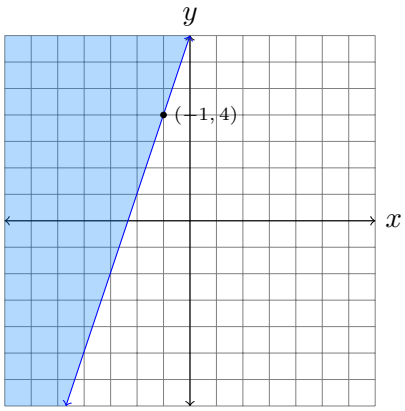

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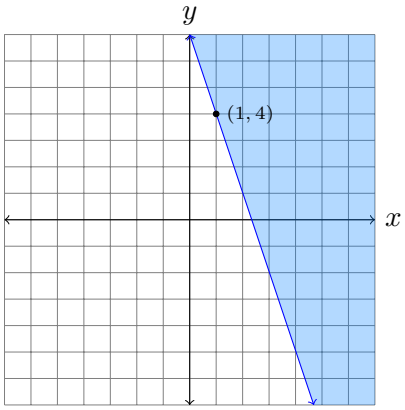

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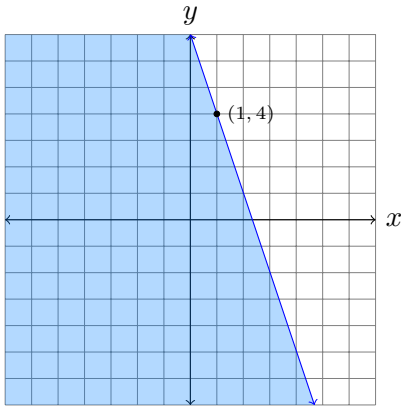
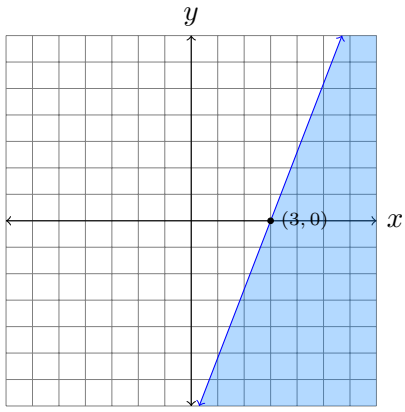


(6) Which of the following is the graph of $8x - 3y \geq 24$?
Solution: (a)

(a)


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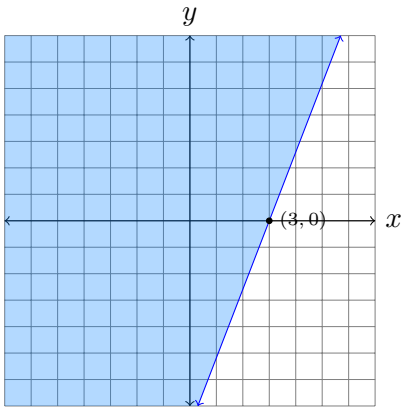

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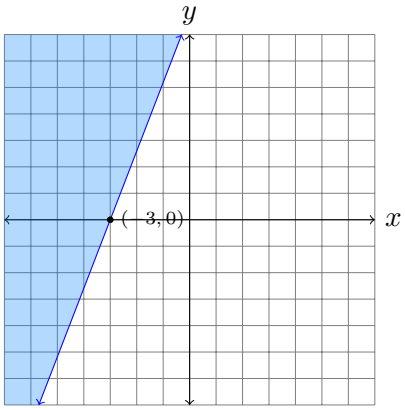
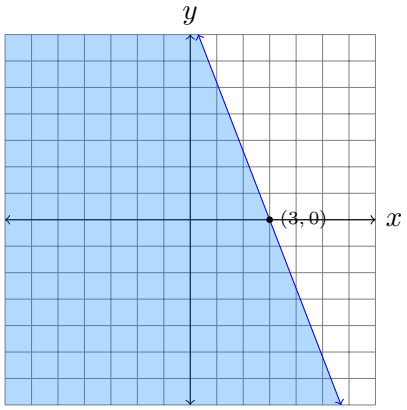


(d)


(7) Find the maximum value and the minimum value of $M = 5x + 12y$ subject to,

$$y - x \leq 8$$
$$6y - 3x \geq 18$$
$$0 \geq x \geq 4$$

Solution:
Maximum value is 164 when x=4, y=12.
Minimum value is 36 when x=0, y=3

(8) Maria is taking an exam with multiple choice questions worth 5 points each and long answer questions worth 8 points each. The exam consists of 20 multiple choice and 10 long answer questions, and she has to answer at least 15 questions. Maria takes 3 minutes to answer each multiple choice question, and 6 minutes to answer each long answer question. She has a maximum of 120 minutes to complete the exam. What is the maximum score that she can achieve, and how many of each type of question must she answer to maximize her score?

Solution: Maximum score, 180 if she answers 20 multiple choice questions and 10 long answer questions.