Sec 4   **Name:**   _____
Winter 2019
Final Exam   **Time Limit: 180 min**
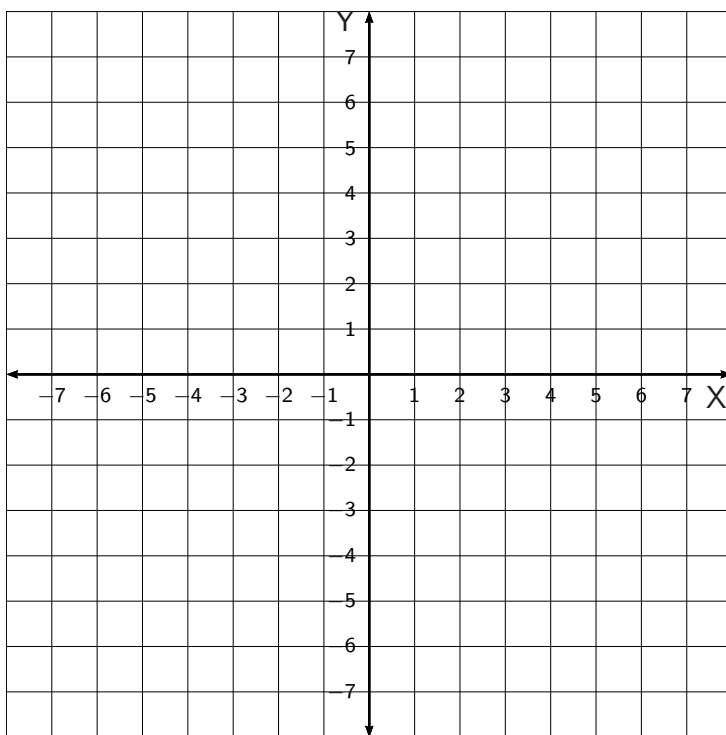
- **DO NOT open tdhe exam booklet until you are told to begin. You should write your name and section number at the top and read the instructions.**

- Organize your work, in a reasonably neat and coherent way, in the space provided. If you wish for something to not be graded, please strike it out neatly. I will grade only work on the exam paper, unless you clearly indicate your desire for me to grade work on additional pages.

- You may use any results from class, homework or the text, but you must cite the result you are using. You must prove everything else.

- You needn't spend your time rewriting definitions or axioms on the exam.

- Show all of your work. You may not receive full credit for correct answers if supporting work is not demonstrated.

Problem	Points	Score
1	5	
2	5	
3	5	
4	5	
5	5	
6	5	
Total:	30	

1. (5 points) Factor completely $7x^3 - 21x^2y + 49xy^2$.

2. (5 points) Factor completely $6x^2 + 13x - 5$.

3. (5 points) Solve the system of linear equations using the method of your choosing
$$\begin{cases} 2x + 1 = 3 \\ 3x - 4 = 1 \end{cases}$$

4. (5 points) Find the equation of the line perpendicular to the line $y = \dfrac{1}{3}x + 1$ going through the point $(4, 2)$.

5. (5 points) Graph the line $2x - y = 2$

6. (5 points) Find the value of x in the following triangle.