Directions:

Due: Monday, November 11.

Directions: Write you answers in your own paper and give them to me at the beginning of class. To get full credit you must **show your work**. Make sure to clearly write your name in every page of your submission and to clearly indicate your answers. Please, STAPLE ALL THE SHEETS OF YOUR SUBMISSION TOGETHER.

NO LATE SUBMISSIONS WILL BE ACCEPTED.

1. Factor $\quad 6\,b\,x - 3\,a\,x + 6\,b\,x - a\,y$.

2. Factor completely $\quad 5\,x^5 - 80\,x$.

3. Factor completely $\quad x^2\,y^2 - y^2 - 4\,x^2 + 4$.

4. Solve $\quad 9\,x^2 - 12\,x + 4 = 0$.

5. Solve $\quad 6\,x^2 - x - 2 = 0$.

6. Solve $\quad 6\,x^2 + 7\,x = 3$.

7. Solve $\quad 3\,x^3 - 7\,x^2 + 2\,x$.

8. Solve $x^5 - 81 * x = 0$.

9. Simplify $\quad \dfrac{6\,x+3}{x-5}\,\dfrac{x^3-25\,x}{2\,x^2-5\,x-3}\,\dfrac{x^2-2\,x-3}{x^2+4\,x}$.

10. Add $\quad \dfrac{-2\,x-2}{x^2+2\,x-8} + \dfrac{x-1}{x-2}$.

11. Subtract $\quad \dfrac{4}{x^2-4} - \dfrac{3}{x^2-x-2}$.

12. Combine $\quad \dfrac{3\,x}{x+2} + \dfrac{2}{x+7} - \dfrac{17\,x+4}{x^2+9\,x+14}$.

13. Simplify $\quad \dfrac{\dfrac{2\,x}{x+4}}{\dfrac{4\,x^2}{x^2-16}}$.

14. Simplify $\dfrac{\dfrac{3}{x+2}}{\dfrac{5}{x-2}-\dfrac{3}{x^2-4}}$.

15. Simplify $\dfrac{\dfrac{2}{x-7}-\dfrac{1}{x+7}}{\dfrac{6}{x+7}-\dfrac{1}{x^2-49}}$.

16. Solve $1+\dfrac{x}{5}=\dfrac{1}{x+4}+x$.

17. Solve $\dfrac{1}{x-3}+3=\dfrac{3}{x^2-9}+\dfrac{25}{x+3}$.

18. Solve $\dfrac{x-10}{x^2+8\,x+12}=\dfrac{3}{x+2}+\dfrac{4}{x+6}$.

19. Solve $\dfrac{x}{5\,x-10}-\dfrac{5}{3\,x+6}=\dfrac{2\,x^2-19\,x+54}{15\,x-60}$.

20. Solve $\dfrac{x}{x+4}=\dfrac{32}{x^2-16}+5$.