

Extra Credit Assignment 2: 10 homework points possible

Simplify each of the following expressions as much as possible by factoring and cancellation. Not all expressions can be simplified. Your solutions, along with any relevant work, should be clearly written on loose leaf paper. Problems should be well spaced to allow for easy reading. For each exercise, your final answer should be circled. Please also make sure that your name is on each page you turn in and that all pages are stapled together. Any assignment not meeting the above requirements will not be considered for extra credit.

This extra credit opportunity is valid until March 11, 2005.

1. $\frac{7x+14}{6x+12}$

3. $\frac{3x^2+9x}{6x^2}$

5. $\frac{x^2+4x-5}{x^2+7x+10}$

7. $\frac{x^2+1}{x+1}$

9. $\frac{x^2+x-2}{x^2+3x-4} \div \frac{x^2+3x+2}{x^2+4x+3}$

11. $\frac{x^2-x-12}{x^2-2x-15} \cdot \frac{x^2-9x+20}{x^2-8x+16}$

13. $(x+1)^{\frac{2}{3}} - (x+1)^{\frac{1}{3}} - 2$

15. $\frac{4x^4-4x^2-3}{2x^2-3}$

17. $\sin^3 \alpha + \cos^3 \alpha$

19. $6 \cot^2 \beta + \sin \beta \cot \beta - \sin^2 \beta$

2. $\frac{x+1}{5x+5}$

4. $\frac{x^2-4x+4}{x^2+x-6}$

6. $\frac{x^2+4x+3}{x^2-4x+3}$

8. $\frac{x^2+2x-15}{x^2+11x+30} \cdot \frac{x^2+2x-24}{x^2-8x+15}$

10. $\frac{x^2-y^2}{(x-y)^2} \cdot \frac{x^2-xy+y^2}{x^2-2xy+y^2} \div \frac{x^3+y^3}{(x-y)^4}$

12. $\frac{(x+y)^2}{x^2+y^2}$

14. $(x+1)^4 - (x-1)^4$

16. $\sin^2 x - 1$

18. $\frac{\sin^4 \theta - \cos^4 \theta}{\sin^2 \theta - \cos^2 \theta}$

20. $\frac{\sin x}{\sin(x+1)}$