

Each group will be given a baggie full of review problems. I will also have the key for the review problems.

1. Students will get into groups of three, each student will need notebook paper.
2. Each group will be given a bag of review problems.
3. On my go, the groups will be able to start going through the problems one-at-a-time. They will only be able to move on to the next problem when everyone in the group has the correct answer. When everyone in the group thinks they are ready, one student will need to raise his/her hand to get my attention and I will check their answers. (If groups are getting done at roughly the same time, it will be nice if both of us can be checking student answers.)
4. The first group to finish all the problems, or get the farthest in the time allotted, wins.

1. $y = \frac{1}{2}x^4 + 3x^2 - x + e$

2. $y = \ln x + e^x$

3. $y = x^2 \cos x$

4. $y = \ln(3x^2 - x)$

5. $y = e^{\tan x}$

6. $y = \frac{x^2 + 1}{x^2 - 1}$

7. $y = \ln\left(\frac{x - 1}{4x^2 - 3}\right)$

8. Write the equation of the tangent line to the graph of $f(x) = \frac{1}{3}x^3 - x^2 + 7x - 2$ at $x = 3$.

9. $\frac{d^2}{dx^2}[\cos x \tan x]$

10. If $f(x) = -3x^2 + 5x + 7$, then $f'(2) = ?$

11. Find $\frac{dy}{dx}$ at $x = 1$ for $y = e^x - ex$

12. Find the slope of the tangent line to the graph of $y = -3 \ln x + \frac{x}{3}$ at the point $x = 2$

13. $f(x) = \frac{x + x^2}{x}$. Find $f'\left(\frac{1}{2}\right)$.

14. If $y = \ln(e^{x^2})$, find $\frac{dy}{dx}$ at $x = \frac{1}{3}$

15. $g(x) = \frac{x^2 + 1}{x - 3}$; find $g'(5)$