Mathematics Homework Formatting Requirements
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Overview:

In order to more efficiently grade homework, I am instituting a policy regarding the formatting of homework. ***These are requirements; homework that does not comply with the following will not be accepted.***

Homework must:

1. Be clean and neatly written.
    - If you write in pencil, erase incorrect work or errors.
    - If you write in pen, use white-out or start over.
2. Be stapled with the problems in sequential order.
    - A real staple must be used (not the folded corner thing).
    - Problems should be in the order they appear in each problem set.
3. Have problems written flush with the left-hand margin only
    - Only a single column of work/problems is allowed. Do not try to squeeze in a second column of problems.
4. Not have the rough, jagged edges from tearing a page out of a spiral notebook.
    - If you use a spiral bound notebook, tear pages out using the perforated clean edge.
    - If the notebook you use does not have perforated clean edges, use scissors to trim the rough edges off.
5. Be placed on the area at the front of the class used by the instructor at the start of the class it is due.

Here is a sample of ***acceptable*** homework:

HW 4

David Rumsey (1)
Math 1200
Calc I

3.3 # 15a **Use** the product rule to find the derivative of the given function. Simplify your result.

$$g(y) = (3y^4 - y^3)(y^2 - 4)$$

$$g'(y) = (12y^3 - 2y)(y^2 - 4) + (3y^4 - y^2)(2y)$$

$$= (12y^5 - 2y^3 - 48y^3 + 8y) + (6y^5 - 2y^3)$$

$$= 18y^5 - 52y^3 + 8y$$

$$= 2y(9y^4 - 26y^2 + 4)$$

3.4 # 15 Find $\frac{dy}{dx}$ for the following function.

$$y = \sin x + \cos x$$

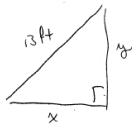
$$\frac{dy}{dx} = \cos x - \sin x$$

3.4 37a Determine whether the following statement is true and give an explanation or counterexample. (2)

$$\frac{d}{dx}(\sin^2 x) = \cos^2 x$$

This statement is false. The chain rule must be applied to find the derivative. $\sin^2 x$ is the same thing as $(\sin x)^2$. So $\frac{d}{dx}(\sin x)^2$ is $2\sin x \cdot \cos x$ which is clearly not $\cos^2 x$.

3.10 # 17 A 13 ft ladder is leaning against a vertical wall (see figure). When Jack begins pulling the foot of the ladder away from the wall at a rate of 0.5 ft/s. How fast is the top of the ladder sliding down when the foot of the ladder is 5 ft from the wall?



want $\frac{dy}{dt}$.

$$y^2 + x^2 = 13^2$$

$$2y\frac{dy}{dt} + 2x\frac{dx}{dt} = 0$$

$$2y\frac{dy}{dt} = -2x\frac{dx}{dt}$$

$$\frac{dy}{dt} = -\frac{x}{y} \cdot \frac{dx}{dt}$$

(3)

$\frac{dx}{dt} = 0.5$ ft/s

When $x = 5$ we get $y^2 + 25 = 169$ so $y = 12$

$$\frac{dy}{dt} = -\frac{5}{12} \cdot 0.5 \text{ ft/s}$$

$$\frac{dy}{dt} = -\frac{5}{24} \text{ ft/s}$$

Here is a sample that is ***unacceptable***: