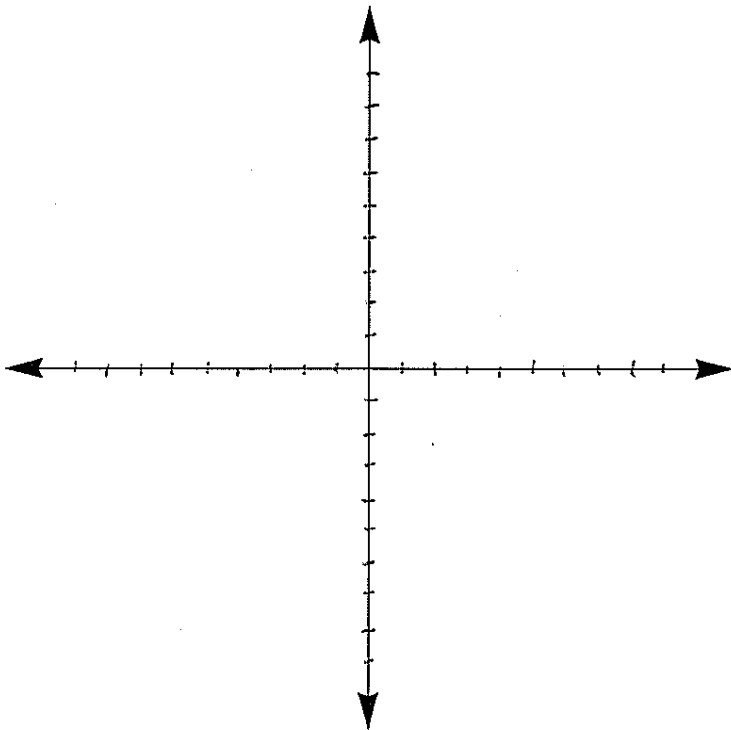


Quiz 1A - Math 130

Name: _____

1. (3 points) Simplify the difference quotient $\frac{f(x+h) - f(x)}{h}$ if $f(x) = -2x^2 + 3$.
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2. (2 points) Sketch the graph of $g(x) = \frac{4}{x^2 + 2x - 15}$. Label all horizontal and vertical asymptotes.



3. (2 points) A farmer wants to build a rectangular shed against one side of his barn. The two sides perpendicular to the barn will be made of metal (at a cost of \$8 per linear foot) and the side parallel to the barn will be made of wood (at a cost of \$3 per linear foot). If the farmer wants the shed to have an area of 100 square feet, write a formula that represents the cost of building the shed in terms of x , where x is the length of the side made with metal.

4. (3 points) Sketch the graph of $f(x) = \begin{cases} x + 2 & \text{if } x < -2 \\ 3 & \text{if } -2 \leq x < 0 \\ x^2 - 1 & \text{if } x \geq 0 \end{cases}$

