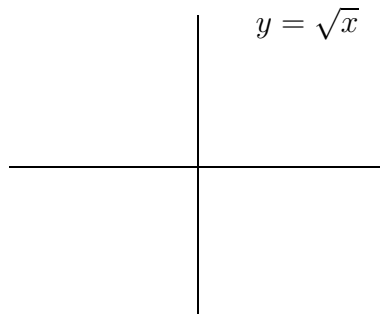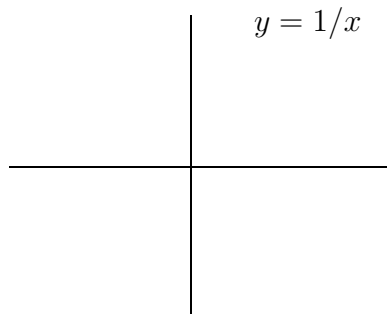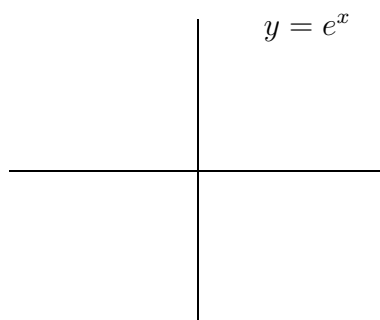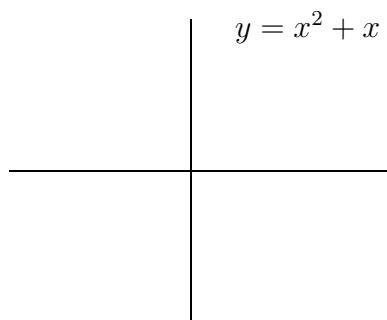# Quiz No.11

student:

**Problem 1:** Write two equations.

**Problem 2:** Give an example of an identity:

**Problem 3:** Draw, by hand, a rough sketch of the graph of the following functions:

$$y = x^2 + x$$

$$y = e^x$$

$$y = 1/x$$

$$y = \sqrt{x}$$

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**Problem 4:** Write the formula for the roots of the quadratic equation
$ax^2 + bx + c = 0$.

**Problem 5:** The 'product rule' for finding a derivative is

$$(uv)' = u'.v + u.v'$$

Write the 'quotient rule' for finding a derivative.

**Problem 6:** What does the Fundamental Theorem of Calculus says?

**Problem 7:** Write a function which equals its derivative

**Problem 8:** Write a function which equals two times its derivative.

**Problem 9:** Write two functions, $f(x)$ and $g(x)$, such that $f'(x) = g(x)$ and
$g'(x) = -f(x)$

**Problem 10:** What is the sum of the first ten natural numbers?