Solutions to Quiz 1

MATH 139-02
Thursday, January 22, 2004

1. Let f be a function of x such that $f(x) = \dfrac{x^2 - 1}{x + 4}$. What is $f(-2)$?

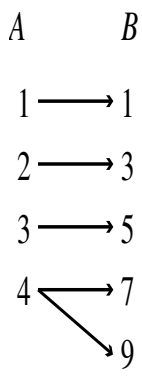
   Solution: $f(-2) = \dfrac{(-2)^2 - 1}{(-2) + 4} = \dfrac{4 - 1}{2} = \dfrac{3}{2}$.

2. If $f(x) = x^2 - 5$, what is $f(x + 2)$? Simplify your answer.

   Solution: $f(x + 2) = (x + 2)^2 - 5 = x^2 + 4x + 4 - 5 = x^2 + 4x - 1$.

3. Let $A = \{1, 2, 3, 4\}$ and $B = \{1, 3, 5, 7, 9\}$. Draw an arrow diagram that gives a **non**function from A to B.

   Solution: Here is one possible solution; there are many.



4. Find an equation of the line through the points $(2, -4)$ and $(6, 1)$.

   Solution: The slope of this line is $\dfrac{1 - (-4)}{6 - 2} = \dfrac{5}{4}$. An equation is therefore $y - 1 = \dfrac{5}{4}(x - 6)$.