Day 4 Notes: aligned math and lists

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1 Introduction

1.1 Quadratic formula

So far we have looked at simple mathematical expressions. Consider the standard quadratic function $f(x) = ax^2 + bx + c$ and solutions to the equation $f(x) = 0$. We often use the quadratic formula which gives solutions

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{21}.$$

1.2 Binomial expansions

Suppose that we were interested in expanding the binomial $(x + y)^2$, we might proceed as follows,

$$\begin{aligned}(x+y)^2 &= (x+y)(x+y) \\ &= x^2 + xy + yx + y^2 \\ (x+y)^2 &= x^2 + 2xy + y^2\end{aligned}$$

Instead, suppose that we wanted to expand $(x + y)^3$. Instead, suppose that we wanted to expand $(x + y)^3$. Instead, suppose that we wanted to expand

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1.3 Details

Consider the the function $f(x) = ax^2 + bx + c$ with the parameters $a = 2$, $b = 4$, and $c = -3$. Consider the the function $f(x) = ax^2 + bx + c$ with the parameters $a = 2$, $b = 4$, and $c = -3$.

2 List environments

We occasionally find it convenient to list things using

- bullets or symbols
- numbers or letters
  - Arabic numerals
  - Roman numerals
  - lower case letters
  - Upper case letters
  - i, ii, iii (lower case Roman numerals)
- brief descriptions

To get the 'counted' lists we use the following

1. Monday
   (a) Garfield no-likey
   (b) . . . Night Football (maybe)
   (c) Tech Prof Math & Stat @ 2:30PM, learn skills to make $
2. Tuesday
3. Wednesday