As of December 15, 2022
new dg command: $^\circ$
prob P(A | Z)
Complex command:

$$Complex : \mathbb{C}$$

```
file <- "/home/jim/code/publish_project/MATH/100_math_examles.md"
```

PURPOSE: Collect examples of math/latex here: vectors, equations, align, symbols etc.

¡!– This is comment to pandoc

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‘‘‘ Exercise 2.1 (Comparing the prior and posterior) For each scenario below, you’re given a pair of events, A and B. Explain what you believe to be the relationship between the posterior and prior probabilities of B: P(B—A)¿P(B) or P(B—A)¡P(B) .

A (a) A = you just finished reading Lambda Literary Award-winning author Nicole Dennis-Benn’s first novel, and you enjoyed it!

B = you will also enjoy Benn’s newest novel.

A = it’s 0 degrees Fahrenheit in Minnesota on a January day. B = it will be 60 degrees tomorrow.

A = the authors only got 3 hours of sleep last night. B = the authors make several typos in their writing today. A = your friend includes three hashtags in their tweet. B = the tweet gets retweeted. ‘‘‘

We are told A, and asked to consider B: P(B — A) Prior is A. P(B — A) = L(A — B)

(b)
Prior is P(A) Posterior is P(B — A)
Of all possible outcomes, B, seems that P(B — A) is quite low.

1 Terms & Definitions

Y outcomes random variable, based upon X inputs, model parameters
Because of error, we refer to P(Y | X, π), where π is model parameter

Joint Conditional Event Sample Space Partition Marginal
Categorical vs Binary vs Discrete variable

Definition 1.1 (test)**.**

$$(\Omega, \mathcal{F}, P)$$

Consider all the subsets of Ω

Then $\mathcal{F}$ contains family of such such subsets, containng $\emptyset, \Omega$,

and if $x \in \mathcal{F}$ then $x^{\complement} \in \mathcal{F}$

For example, Ω is unit square and consider simple curve st $\in \mathcal{F}$. though could be $\mathcal{P}(\Omega)$

Elements of $\mathcal{F}\sigma$ algebra (if countable) or algebra if finite and maps between subsets of Ω
Rules:

Definition 1.2 (Probability Triple)**.**

2 linear regression