

# Slay the Spire 2 Problem Set #1

by @tckmn    May 8, 2026    info/errata/submissions: <https://tck.mn/stsexam>

Assume all questions refer to a normal, unmodded, non-daily, non-custom, single-player game on the latest beta or main-branch version<sup>1</sup> unless stated otherwise. If character or ascension level are not specified, you may choose. You may not use glitches to your advantage in any problem.

## 1 Numbers

All subparts have a simple numeric answer, but you must provide justification for full credit.

- Suppose you are in a fight that you passive block every turn and you have a Retain attack for lethal, but you have some “every  $n$  turns” relics that you want to set up. What is the largest (finite) number of turns you might have to wait?
- What is the earliest possible floor your deck can have 10,000 cards in it?
- What is the earliest possible floor you can have a deck with guaranteed turn 1 infinite?
- Suppose you have 1HP, no cards, no potions, and no Lizard Tail. You click on a normal hallway node (not marked by Fur Coat) and see a 9999HP enemy with 9999 Doom attacking for  $n$ . What is the largest value of  $n$  where you can definitely win? (“Definitely” means “even with worst possible RNG” – e.g. if you have Delicate Frond, it will never make a Block Potion.)
- You are fighting a Rock Bowlbug and an Egg Bowlbug. The Rock Bowlbug has 0 Doom, and the Egg Bowlbug has some Doom. You have -10 Strength, and you play Misery a large number of times. Now the Rock Bowlbug has 8,400 Doom, and the Egg Bowlbug has 49,000 Doom.

How much Doom did the Egg Bowlbug start with?

[Hint: This problem is solvable without computer / calculator assistance.]

## 2 Bosses

**Part (a): Knowledge Demon.** Engineer a position just before the start of your turn (before you have drawn cards) where you are guaranteed to lose a fight, but if you could click a button that gave you a random Knowledge Demon debuff, you will be guaranteed to win the fight. Here is a list of Knowledge Demon debuffs:

- Disintegration:* take 6/7/8 damage at end of turn (you can choose)
- Mind Rot:* draw 1 fewer card per turn
- Sloth:* you can play at most 3 cards per turn
- Waste Away:* you gain 1 less energy per turn

**Part (b): Doormaker** [rest in peace]. For each phase of each version of the Doormaker, describe a deck that goes infinite<sup>2</sup> without using any relics, potions, enchanted cards, or Colorless cards. Note that this includes Ancient relics – e.g. you cannot use **The Sealed Throne**, because having that card in your deck requires having a specific relic. Here is a list of all Doormaker versions / phases:

- v0.98.0: boring enemy that does nothing
- v0.100.0: every 10th card you draw is eaten (removed from the fight)
- v0.101.0 Hunger phase: every Attack or Skill you play is exhausted
- v0.101.0 Scrutiny phase: you cannot draw cards during your turn
- v0.101.0 Grasp phase: whenever you play a card, lose 1 Energy

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<sup>1</sup>There are two subproblems which have an *additional* solution on the latest beta patch (v0.105.0), but all problems are still solvable on the latest main-branch version (v0.103.2). (for extra credit, find both subproblems and both solutions for each ☺)

<sup>2</sup>Here, “goes infinite” means that you can demonstrate a concrete game state such that for any positive integer  $n$ , there is a deterministic line that kills or Dooms the boss this turn even if it has  $n$  HP.

### 3 Floor 2

Note that floor 2 is the first combat of the run (floor 1 is Neow). Assume Ascension 10.

**Part (a).** You take Small Capsule and enter floor 2. You play two cards. You are now infinite. How? (any infinite will do – damage, block, card plays, etc. you can rig earlier RNG, but after the 2 cards the infinite must be deterministic)

**Part (b).** You enter floor 2. You drink some potions and play some cards. You are now softlocked. How? (“softlocked” means that you are unable to end your turn because cards are autoplating forever)

### 4 The enormous dummy

You enter a strange version of the Battleworn Dummy event, where instead of 3 turns, you get  $10^{10^{999}}$  turns. Sort the following decks by the biggest dummy they can kill, from lowest to highest HP.

Assume all mechanics are uncapped (i.e. no energy/Strength/etc. limit) except hand size (still 10). Your entire deck is the cards shown (no starters or Ascender’s Bane), and there are no other relevant potions or relics.

[Hint: You do not have to do any numerical computations to solve this problem.]



**Cracked Core:** At the start of each combat, Channel 1 Lightning.



**Letter Opener:** Every time you play 3 Skills in a single turn, deal 5 damage to ALL enemies.



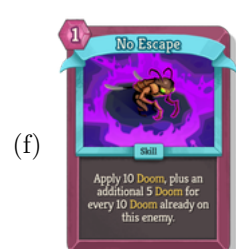
**Shuriken:** Every time you play 3 Attacks in a single turn, gain 1 Strength.



**Music Box:** Create an Ethereal copy of the first Attack you play each turn. (Momentum: increase damage by 5 this combat when played)



**Ornamental Fan:** Every time you play 3 Attacks in a single turn, gain 4 Block.



**Unceasing Top:** Whenever you have no cards in Hand during your turn, draw a card. (Perfect Fit: whenever this would be shuffled into draw, place it on top instead)