**Answer KEY**

**Part A White Powders: (50pts)**

**What is CS1: \_\_\_\_\_\_Sugar\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Formula: \_\_\_\_C12H22O11\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**What is it used for? Baking, cooking, sweetening**

**Who could have had it on them? Mickey, Daisey, Donald**

**What is CS2: \_\_\_\_Gelatin\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**What is it used for? Thickening agent, used in jell-o, animal hoofs**

**Who could have had it on them? Mickey, Minnie**

**What is CS3: \_\_\_\_Salt\_\_\_­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Formula: \_\_\_\_\_\_NaCl\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­\_\_\_\_\_**

**What is it used for? Cooking , preserving, seasoning, beach**

**Who could have had it on them? Mickey, Minnie, Donald**

**What is CS4: \_\_\_\_YEAST\_\_\_\_\_\_\_\_\_\_\_\_**

**What is CS5: \_\_\_\_VITAMIN C\_\_\_\_\_\_\_\_\_\_\_\_**

**What is CS6: \_\_\_\_SAND\_\_\_\_\_\_\_\_\_\_\_\_**

**What are CS7: \_\_\_\_\_SALT\_\_\_\_\_\_\_ \_\_\_\_\_\_\_SUGAR\_\_\_\_\_\_\_ What is CS8: \_\_\_\_\_\_\_AKA SELTZER\_\_\_ \_\_\_\_FLOUR\_\_\_\_\_\_**

**Part B Hair: (10 points)**

**What type of hair is CS9: (please circle) Human *Dog* Cat**

**What type of hair is CS10: (please circle) Human Dog *Cat***

**What type of hair is CS11: (please circle) *Human* Dog Cat**

**Who’s hair does this most closely match? \_\_\_\_JULIANNA\_\_\_\_\_\_**

**What type fiber is CS12:(please circle) Animal Vegetable Synthetic**

**What type fiber is CS13:(please circle) Animal *Vegetable* Synthetic**

**Give an example of each of the three above fiber types:**

**animal: wool/silk**

**vegetable: cotton/linen/ rayon**

**synthetic: polyester/spandex**

**Part C (5)**

**Ink Sample –Perform paper chromatography on each of the ink samples and tape and label them below.**

**Which suspect’s pen most closely matches the one found at the crime scene? \_\_\_\_\_\_\_\_\_\_\_\_MICKEY\_\_\_\_\_\_\_\_\_\_\_\_**

**Part D Fingerprints and DNA: (10 points)**

**What are the three general types of fingerprints? \_\_\_\_ARCH\_\_\_\_\_**

**\_\_\_\_LOOP\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_WHORL\_\_\_\_\_\_\_\_\_**

**Who’s fingerprints most closely match the fingerprint on the doorknob? \_\_\_\_Julianna\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Who’s fingerprints most closely match the fingerprint on the safe? \_\_\_\_\_\_\_\_\_\_\_\_\_MICKEY\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Who’s DNA is at the crime scene?**

**\_\_\_\_\_\_\_\_JULIANNA\_\_\_\_\_\_\_\_\_\_\_\_**

**Part F Analysis: (25 pts)**

**Please explain how the evidence from the crime scene incriminates or eliminates the suspects. Account for all of the evidence.**

**Mickey- Done it (7pts)**

**Has both cat and dog, most of the powders can be found on him due to occupation or hobbies, jealous of Julianna and fortune – wants the recipe, tired of work**

**Sugar: Mickey, Daisey, Donald (1)**

**Gelatin: Mickey, Minnie (1)**

**Salt: Mickey, Goofy, Minnie, Donald (1)**

**Yeast – Mickey, Donald (1)**

**Vit C- Goofy, Donald (1)**

**Alka Seltzer – Minnie (1)**

**Sand- Minnie (1)**

**Flour - Mickey, Donald (1)**

**Hair1= dog- Mickey, Minnie, Julianna (1)**

**Hair2= Cat – Mickey, Daisey (1)**

**Fingerprint Doorknob: Julianna, lives at the house (1)**

**Fingerprint Safe – Mickey – no reason for print to be on safe (1)**

**Fiber 1: synthetic – Mickey, goofy, Minnie, Donald (1)**

**Fiber 2 – cotton – Mickey, Daisey, Donald(1)**

**Ink: Mickey (1)**

**DNA – Julianna – her house, DNA may be there (1)**

**Statement explaining how the evidence goes together. (2)**