**Test Premises:**

-**Each was level 10 (giving 20 attribute them points to distribute), with a probable**

**point spread of 3.**

**-Each unit had base attributes of:**

**Strength: 2**

**Agility: 2**

**Dexterity: 2**

**Endurance: 2**

**Health: 1**

**Level: 1**

**-The conversion rate from attribute points to stat points is:**

**Strength: +2 ATK**

**Agility: +2 SPD**

**Dexterity: +1 ATK +1 SPD**

**Endurance: +2 DEF + 5 HP**

**Health: +20 HP \* (1 + Level \* 0.01)**

**So an example: HP = 5\*Endurance + 20\*Health \* (1 + 0.01\*Level)**

**-Which lead to base stats of:**

**ATK: 6**

**SPD: 6**

**DEF: 4**

**hp: 30.2**

**-I am using a random variable (RV) that can range from 1.2 to 1.7 by 0.05's.**

**-Damage = RV\*(PlayerA\_attack\*2 + PlayerA\_speed) - (PlayerB\_defence\*2 +**

**PlayerB\_speed).**

**- Damage now reduce by 75%**

**-The minimum damage is 1 for each unit not counting misses or critical hits.**

**-Each unit has a 5% chance of missing and doing zero damage.**

**-Each unit has a 0.005% \* SPD chance of doing a critical hit. Critical hits do**

**double damage.**

**If I've left anything out please let me know.**

**Test Examples:**

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**1: Marlen vs. Jacob**

**2: Marlen:**

**[Strength => 8, Agility => 8, Dexterity => 7, Endurance => 5]**

**[ATK => 23, SPD => 23, DEF => 10]**

**[HP => 47.0]**

**3: Jacob:**

**[Strength => 8, Agility => 8, Dexterity => 7, Endurance => 5]**

**[ATK => 23, SPD => 23, DEF => 10]**

**[HP => 47.0]**

**4: BATTLE STARTED!**

**5: Marlen dealt 10.81 damage.**

**6: Jacob dealt 13.40 damage.**

**7: Marlen HP: 33.60**

**8: Jacob HP: 36.19**

**9: Marlen dealt 11.68 damage.**

**10: Jacob dealt 13.40 damage.**

**11: Marlen HP: 20.20**

**12: Jacob HP: 24.51**

**13: Marlen dealt 15.12 damage.**

**14: Jacob dealt 14.26 damage.**

**15: Marlen HP: 5.94**

**16: Jacob HP: 9.39**

**17: Marlen dealt 18.57 damage.**

**18: Jacob dealt 15.99 damage.**

**19: Marlen HP: 0.00**

**20: Jacob HP: 0.00**

**21: The battle lasted 4 rounds**

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**1: Marlen vs. Jacob**

**2: Marlen:**

**[Strength => 9, Agility => 6, Dexterity => 7, Endurance => 6]**

**[ATK => 25, SPD => 19, DEF => 12]**

**[HP => 52.0]**

**3: Jacob:**

**[Strength => 8, Agility => 7, Dexterity => 6, Endurance => 7]**

**[ATK => 22, SPD => 20, DEF => 14]**

**[HP => 57.0]**

**4: BATTLE STARTED!**

**5: Marlen dealt 16.46 damage.**

**6: Jacob dealt 11.65 damage.**

**7: Marlen HP: 40.35**

**8: Jacob HP: 40.54**

**9: Marlen dealt 10.43 damage.**

**10: Jacob dealt 12.45 damage.**

**11: Marlen HP: 27.90**

**12: Jacob HP: 30.11**

**13: Marlen dealt 17.32 damage.**

**14: Jacob dealt 8.45 damage.**

**15: Marlen HP: 19.45**

**16: Jacob HP: 12.79**

**17: Marlen dealt 13.01 damage.**

**18: Jacob dealt 10.85 damage.**

**19: Marlen HP: 8.60**

**20: Jacob HP: 0.00**

**21: The battle lasted 4 rounds**

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**1: Marlen vs. Jacob**

**2: Marlen:**

**[Strength => 10, Agility => 5, Dexterity => 6, Endurance => 7]**

**[ATK => 26, SPD => 16, DEF => 14]**

**[HP => 57.0]**

**3: Jacob:**

**[Strength => 8, Agility => 7, Dexterity => 5, Endurance => 8]**

**[ATK => 21, SPD => 19, DEF => 16]**

**[HP => 62.0]**

**4: BATTLE STARTED!**

**5: Marlen dealt 16.15 damage.**

**6: Jacob dealt 12.64 damage.**

**7: Marlen HP: 44.36**

**8: Jacob HP: 45.85**

**9: Marlen dealt 8.50 damage.**

**10: Jacob dealt 12.64 damage.**

**11: Marlen HP: 31.72**

**12: Jacob HP: 37.35**

**13: Marlen dealt 11.90 damage.**

**14: Jacob dealt 10.35 damage.**

**15: Marlen HP: 21.38**

**16: Jacob HP: 25.45**

**17: Marlen dealt 12.75 damage.**

**18: Jacob dealt 7.30 damage.**

**19: Marlen HP: 14.07**

**20: Jacob HP: 12.70**

**21: Marlen dealt 9.35 damage.**

**22: Jacob dealt 10.35 damage.**

**23: Marlen HP: 3.73**

**24: Jacob HP: 3.35**

**25: Marlen did a critical hit!**

**26: Marlen dealt 15.30 damage.**

**27: Jacob dealt 14.93 damage.**

**28: Marlen HP: 0.00**

**29: Jacob HP: 0.00**

**30: The battle lasted 6 rounds**

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**1: Marlen vs. Jacob**

**2: Marlen:**

**[Strength => 7, Agility => 6, Dexterity => 10, Endurance => 5]**

**[ATK => 24, SPD => 22, DEF => 10]**

**[HP => 47.0]**

**3: Jacob:**

**[Strength => 6, Agility => 7, Dexterity => 7, Endurance => 8]**

**[ATK => 19, SPD => 21, DEF => 16]**

**[HP => 62.0]**

**4: BATTLE STARTED!**

**5: Marlen dealt 11.25 damage.**

**6: Jacob dealt 7.20 damage.**

**7: Marlen HP: 39.80**

**8: Jacob HP: 50.75**

**9: Marlen missed!**

**10: Jacob dealt 9.41 damage.**

**11: Marlen HP: 30.39**

**12: Jacob HP: 50.75**

**13: Marlen dealt 8.62 damage.**

**14: Jacob dealt 12.36 damage.**

**15: Marlen HP: 18.02**

**16: Jacob HP: 42.12**

**17: Marlen dealt 8.62 damage.**

**18: Jacob dealt 10.15 damage.**

**19: Marlen HP: 7.87**

**20: Jacob HP: 33.50**

**21: Marlen dealt 13.88 damage.**

**22: Jacob dealt 7.94 damage.**

**23: Marlen HP: 0.00**

**24: Jacob HP: 19.62**

**25: The battle lasted 5 rounds**

**TESTS: 4**