

May The Odds Be Ever In Your Favour – Hunger Games Simulation

Name: _____

When you came into class today you received a piece of paper.

+3	1
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The **first number** (+1 to +6) represents how many years you are going to add to your current age for today's lesson.

My current age: _____ + my first number _____ = my age for this project _____

Members of my family: _____ (current members living in your house, including yourself)

The **second number** represents whether you received *tesserae* or not. In the Hunger Games, *tesserae* represents additional food resources for families in need.

0 = you are **not** starving and you did not receive *tesserae*

1 = you are starving and your family has received *tesserae* each year since you were 12

Determining Your Entries Into The Reaping:

PART 1: AGE

Age 12=1, Age 13=2, Age 14=3, Age 15=4, Age 16=5, Age 17=6, Age 18=7

Based on my age, this is the number of entries I have: _____

PART 2: TESSERAE

You must add 1 extra entry per person in your family (including yourself) per year that you received *tesserae*.

Number of people in your family x number of years you qualify to have your name entered

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

PART 3: TOTAL ENTRIES

Add together your **age entries** and your **tesserae entries** to get your total entries.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

For example, if you are 14 years old, the number of entries for your age would be 3. And if you have five members in your family (including you), you would have 15 tesserae entries (5 family members x 3 eligible years). Your total would be 18 entries (3 for age + 15 for tesserae).

- 1. On the basis of your age and tesserae status, determine the number of entries you will have in the reaping lottery this year. Show your work:**

I have entries in the reaping for my age.

I have entries in the reaping for tesserae.

When I add up my entries, I have entries in the reaping in total.

Total Male Entries:

Total Female Entries:

Total District (Class) Entries:

2. Given the grand total number of entries in our district (class) and for your gender, what is the Probability that your name will be selected?

Remember: Probability = $\frac{\text{number of desired outcomes}}{\text{total number of outcomes}}$

Please calculate the following as a *ratio, fraction, decimal and percent (rounded to the nearest hundredth)*:

The probability of being drawn in our district (class)

Probability = $\frac{\text{your number of entries}}{\text{number of total district entries}}$

The probability of being drawn based on your gender

Probability = $\frac{\text{your number of entries}}{\text{number of gender specific entries}}$

Choose three of the following questions to answer individually:

1. Katniss had 20 entries in the reaping, Peeta 5, Gale 42, and Prim 1. If there were 4144 boy entries and 4060 girl entries in District 12, what is the probability that each name would be drawn for the Hunger Games. Show your work for each person as a *ratio, fraction, decimal and percent*.
2. What is the probability that both Peeta and Prim are drawn at the reaping? To determine the probability of both of these two events happening, you multiply each individual probability together.
3. How many entries would you have if you were 18 years old, had 9 family members, and received tesserae for each of them every year since you were 12?
4. Suppose you were in a math class of 24 students and each student randomly draws the name of a contestant from the Hunger Games. If your contestant wins the Hunger Games, you win a prize. Is this a fair game? Why or why not?
5. Suppose as the Hunger Games tributes arrive at the Capitol they each greet every other contestant of their gender one time. How many total greetings would there be? Use a tree diagram or list to help show your work.

Question ____:

My Work:

My Answer:

Question ____:

My Work:

My Answer:

Question ____:

My Work:

My Answer: