Vocabulary Review Sheet

Lesson – Percent Proportions and Fairness in Voting

How to Use

- Review each vocabulary term before your quiz.

- Study the **math**, **real-life**, and **fairness** examples to understand how numbers reveal access and equity.

- Remember: *Percent proportions help us measure fairness in democracy by comparing parts to the whole.*

- Keep this page inside your *Equity in Numbers Student Journal* as a civics math reference.

Percent Proportion

- **Definition:** An equation that compares a part to a whole as a percent out of 100.

- **Math Examples:**

    - $120{,}000 / 1{,}500{,}000 = x / 100 \rightarrow x = 8\%$

    - $60{,}000 / 800{,}000 = x / 100 \rightarrow x = 7.5\%$

    - $250{,}000 / 2{,}000{,}000 = x / 100 \rightarrow x = 12.5\%$

- **Real-Life Example:** Calculating what percent of eligible voters face restrictions.

- **Fairness Example:** Percent proportions show how voting barriers affect different groups unequally.

Part and Whole

- **Definition:** In a proportion, the *part* is the affected amount; the *whole* is the total group.

- **Math Examples:**

    - Part = restricted voters (120,000); Whole = eligible voters (1,500,000).

- o 25 out of 100 → 25%.

- **Real-Life Example:** Counting how many citizens out of the whole population can't vote easily.

- **Fairness Example:** Comparing parts and wholes lets us measure fairness across communities.

Percent

- **Definition:** A number that tells "out of 100."

- **Math Examples:**

  - o 120,000 ÷ 1,500,000 × 100 = 8%.

  - o 40 out of 200 → (40 ÷ 200 × 100) = 20%.

- **Real-Life Example:** 8% of voters in one state face restrictions.

- **Fairness Example:** A higher percent means more people are being left out — a fairness issue.

Cross-Multiply

- **Definition:** A method to solve proportions by multiplying diagonally and dividing.

- **Math Examples:**

  - o 120,000 / 1,500,000 = x / 100
    → 120,000 × 100 = 1,500,000 × x
    → x = 8%.

- **Real-Life Example:** Using cross-multiplication to find what percent of voters are impacted.

- **Fairness Example:** Accurate calculations prevent misrepresentation in voting data.

Restriction

- **Definition:** A rule or barrier that limits someone's ability to act or participate.

- **Math Examples:**

- o 8% restricted = 120,000 voters.

  - o 12.5% restricted = 250,000 voters.

- **Real-Life Example:** ID laws or closed polling places may restrict eligible voters.

- **Fairness Example:** Restrictions create unequal access — math helps reveal their impact.

Eligible Voter

- **Definition:** A citizen who meets the requirements to vote in an election.

- **Math Examples:**

  - o Total = 1,500,000 eligible voters.

  - o Part = 120,000 restricted → 8% affected.

- **Real-Life Example:** Adults 18+ who are citizens can vote if they're registered.

- **Fairness Example:** Equal voting access for all eligible citizens keeps democracy strong.

Democracy

- **Definition:** A system of government where the people have power through voting.

- **Math Examples:**

  - o If 12.5% can't vote, 87.5% can → not fully fair.

  - o 100 – 8 = 92% with access → more representative.

- **Real-Life Example:** Voters choose leaders and policies through elections.

- **Fairness Example:** Math helps track whether everyone's voice counts equally.

Access

- **Definition:** The ability or opportunity to take part in something.

- **Math Examples:**

  - o 92% of voters have access; 8% do not.

- o Comparing 7.5% vs 12.5% restricted shows access differences.

- **Real-Life Example:** Some neighborhoods have fewer polling places → less access.

- **Fairness Example:** Ensuring access means removing barriers that silence certain groups.

Barriers

- **Definition:** Obstacles that make participation harder.

- **Math Examples:**

  - o 12.5% facing barriers = ¼ of voters in one area.

  - o Compare percentages to see where barriers are highest.

- **Real-Life Example:** Long lines, limited polling hours, or strict ID rules create barriers.

- **Fairness Example:** Fewer barriers = more fairness and equal representation.

Fairness and Representation

- **Definition:** Everyone's voice should count equally in decisions that affect their lives.

- **Math Examples:**

  - o 8% restricted vs 92% free to vote → inequity.

  - o Goal: 100% access = 100% representation.

- **Real-Life Example:** Each vote represents a citizen's voice in government.

- **Fairness Example:** When percent proportions reveal gaps in access, we can push for equal representation.

✅ **Summary of Math + Fairness Connections**

Concept	Math Focus	Fairness Connection
Percent Proportion	Compares parts to whole out of 100	Reveals how voting access differs by state
Restriction	Measures voters impacted by rules	Highlights barriers to equal representation
Access	Tracks who can participate	Promotes inclusion in democracy
Cross-Multiply	Solves for unknown percents accurately	Ensures fair and transparent data
Fairness + Representation	Combines math and civics	Builds equity in voting rights for all