Vocabulary Review Sheet

Lesson – Angles and Architecture from Diverse Cultures

How to Use

- Review these words before your quiz.

- Use the **math examples** to practice, the **real-life examples** to connect to architecture, and the **fairness examples** to think about equity.

- Keep this page in your *Equity in Numbers Student Journal*.

- Remember: *When we study angles from every culture, we make math more fair and complete.*

Angle

- **Definition:** The space formed when two rays or lines meet at a point.

- **Math Examples:** $\angle A = 68°$, $\angle B = 112°$ → linear pair adds to 180°.

- **Real-Life Example:** Angles appear in rooflines, windows, arches, and doorways.

- **Fairness Example:** Every culture uses angles in its designs—recognizing them gives credit to all architectural traditions.

Vertex

- **Definition:** The point where two sides or rays of an angle meet.

- **Math Examples:** In $\angle ABC$, the vertex is point B.

- **Real-Life Example:** The corner where two beams or walls meet in a building.

- **Fairness Example:** Just like in math, every "corner" of the world adds to the full picture of human creativity.

Acute Angle

- **Definition:** An angle smaller than 90°.

- **Math Examples:** 45°, 68°.

- **Real-Life Example:** Found in the steep rooflines of Japanese pagodas or Mayan pyramids.

- **Fairness Example:** Small angles build big beauty — even modest details in overlooked cultures deserve recognition.

Right Angle

- **Definition:** A 90° angle; forms a perfect corner.

- **Math Examples:** ∠C = 90°.

- **Real-Life Example:** Corners of Egyptian temples or modern skyscrapers.

- **Fairness Example:** Many cultures discovered right angles independently — reminding us that no single culture "owns" geometry.

Obtuse Angle

- **Definition:** An angle greater than 90° but less than 180°.

- **Math Examples:** 112°, 125°.

- **Real-Life Example:** Found in the wide arches of Islamic mosques or African mud architecture.

- **Fairness Example:** Broader angles symbolize openness — just as we should widen our view of global mathematical genius.

Straight Angle

- **Definition:** An angle that measures exactly 180°.

- **Math Examples:** Two complementary sides forming a line.

- **Real-Life Example:** The long horizontal edges of temples or palace foundations.

- **Fairness Example:** Straight angles show balance — fairness in architecture means balanced representation, too.

Complementary Angles

- **Definition:** Two angles that add up to 90°.

- **Math Examples:** 60° + 30° = 90°.

- **Real-Life Example:** The corners of window frames or roof joints.

- **Fairness Example:** Complementary ideas — culture and math — complete one another when both are valued.

Supplementary Angles

- **Definition:** Two angles that add up to 180°.

- **Math Examples:** 68° + 112° = 180°.

- **Real-Life Example:** Roof slopes and steps in pyramids or temples.

- **Fairness Example:** When two parts add up to a whole — just like global designs combine to form the full history of architecture.

Vertical Angles

- **Definition:** Angles opposite each other when two lines cross; they are equal.

- **Math Examples:** If ∠A = 118°, then ∠B = 118°.

- **Real-Life Example:** Crossing beams in Japanese temples or window lattice designs.

- **Fairness Example:** Vertical angles show equality — both sides are the same, just like all cultures deserve equal recognition.

Parallel Lines & Transversals

- **Definition:** Lines that never meet (parallel) and a line that crosses them (transversal).

- **Math Examples:** Creates equal corresponding angles.

- **Real-Life Example:** Columns, railings, or step patterns in Greek, Roman, or Indigenous designs.

- **Fairness Example:** Patterns repeat across cultures — geometry shows we are all connected.

Protractor

- **Definition:** A tool used to measure or draw angles in degrees.

- **Math Examples:** Used to measure $\angle A = 47°$ accurately.

- **Real-Life Example:** Architects use protractors or digital tools to plan roof slopes.

- **Fairness Example:** When students use protractors to study global buildings, they're using math to appreciate diversity.

Architecture

- **Definition:** The art and science of designing and building structures.

- **Math Examples:** Using angles and symmetry to create strong, beautiful forms.

- **Real-Life Example:** The Great Mosque of Djenné, Japanese temples, Mayan pyramids, Islamic arches.

- **Fairness Example:** Celebrating architecture from every continent shows that math is universal and shared.

Representation

- **Definition:** How people, cultures, and ideas are shown or included.

- **Math Examples:** Including examples from many cultures in geometry lessons.

- **Real-Life Example:** Museums displaying both European cathedrals and African mosques.

- **Fairness Example:** Fair representation in math education ensures every culture's contributions are valued.

Summary of Math + Fairness Connections

Concept	Math Focus	Fairness Connection
Angles	Measure openings between lines	Show structure and beauty across all designs
Relationships	Complementary, supplementary, vertical	Teach equality, balance, and connection
Protractor & Measurement	Tools to find precise angles	Tools to respect and understand cultural geometry
Architecture & Representation	Math in real-world design	Honors global contributions and equity in education