Mathematics for Prison Abolition Syllabus

Department: Mathematics/Philosophy/Africana Studies/Education

Required reading:

1. O'Neil, C. (2017). Weapons of Math Destruction. London, United Kingdom: Penguin Books.
2. Frame, M. (2020). Geometry of Grief: Reflections on Mathematics, Loss, and Life. Chicago, Illinois: University of Chicago Press.

Course Description: In this course, students will gain a comprehensive understanding of the history and philosophy of mathematics, how it has been used for western imperialism, how it continues to create inequality today, and how it can be used to abolish prisons and liberate people from confinement. Students will explore a range of media including movies, podcasts, books, articles, and mathematics papers from various authors, from ancient Islamic philosophers to modern-day prison abolitionists. In addition to learning about mathematics' historic and current impact on society, students will be expected to apply what they learn in their own projects that use mathematics to create social change. This course will provide students with a decolonized, abolitionist history and theory of mathematics and is open to all majors.

Goals: The goal of this course is to encourage students of all disciplines to question what mathematics is and what the role of a mathematician is, how mathematics has contributed to carceral violence historically and continues to today, and how mathematics can help abolish prisons and liberate people from confinement.

Learning Objectives:

- **Develop** a critical approach toward thinking about mathematics
- **Understand** the basic philosophy, history, and social impact of mathematics
- **Apply** mathematics (and theories regarding mathematics) to generate social change

Assignments:

- **Weekly Assignment:** Before each class period students will post two questions, comments, or observations that they make from their weekly readings. These remarks will be used to lead class discussions. **(40% of grade)**
- **Midterm Assignment:** In groups greater than two, students will develop and teach their own lesson plan on Mathematics for Prison Abolition to any age group. This can take shape of a syllabus in tandem with a recording, essay, in-class presentation, or another method of disseminating knowledge. **(30% of grade)**
- **Final Assignment:** Individually, students will create projects based on any content learned throughout the course. This may include teaching mathematics in a prison, writing an op-ed about predictive policing algorithms, making an art piece using geometry, or anything that they feel best summarizes what they have learned. **(30% of grade)**

Expectation: Students are expected to be **prepared, open,** and **inquisitive**.

1. Be **Prepared**. Complete all readings and assignments when they are due. If you cannot complete a reading or assignment by its due date, contact the instructor to set up an office hour appointment to go through the materials or workshop a date when the assignment can be completed by. Points will not be deducted for tardiness as long as the work is submitted by the end of the semester.

2. Be **Open**. Pay attention in class and contribute to the classroom discussion. Our class discussions will be enriched by the diversity of our lived and learned experiences.
3. Be **Inquisitive**. Search for questions in readings and during class. You may disagree with some of our readings or with other students. If so, share your thoughts, ideas, and opinions.

Schedule:

Week 1: Abolitionist Mathematics

Tuesday: Mathematics and Abolition

- **Meiners, E. & Bullock, E. Abolition by the Numbers Mathematics as a Tool to Dismantle the Carceral State (and Build Alternatives). (2019). Theory into Practice.**
    - Summary: In this article, Meiners and Bullock, examine mathematics and mathematics education through a lens of abolition. They discuss how mathematics education is "an agent of the carceral state", explain the necessity of abolition, and describe how mathematics can be re-thought to create an anti-carceral and anti-capitalist world.

Thursday: Student Ideas

- **Students bring in one article, book, song, podcast, artwork, or other media related to any of the themes in "Abolition by the Numbers Mathematics as a Tool to Dismantle the Carceral State (and Build Alternatives)" and give a short synopsis of the piece and how it relates to the text and course in general.**

Week 2: What is Mathematics?

Tuesday: Early Philosophy

- **Zarepour, M. S. (2022). Arabic and Islamic Philosophy of Mathematics (Stanford Encyclopedia of Philosophy). Stanford.edu.**
    - Summary: In this article, the Stanford Encyclopedia of Philosophy summarizes the little-discussed, medieval Muslim philosophy of mathematics. Specifically, the article focuses on the ontology and epistemology of mathematics, discussing what mathematical objects are, continuity, and many more important notions.
- **Choose a section to explore: Horsten, L. (2022). Philosophy of Mathematics (Stanford Encyclopedia of Philosophy). Stanford.edu.**
    - Summary: In this article, the Stanford Encyclopedia of Philosophy identifies four primary schools of western mathematical philosophy. These include logicism (the study of logic), intuitionism (which views mathematics as a construction), formalism (which sees mathematics as representative of concrete objects), and predictivism (which defines mathematics without impredicative definitions). Along with these, the article covers Platonism, Structuralism, and other topics.

Thursday: Modern Questions

- **Modesitt, V., & Hardy, G. H. (1942). A Mathematician's Apology. National Mathematics Magazine, 16(6), 311.**

    - Summary: In this essay, Hardy describes the ways that mathematics can contain beauty and be important to every-day life, without necessarily being applied to the "real world". The essay is also his justification for his life's work as a mathematician.
- **Thurston, W. P. (1994). On proof and progress in mathematics. Bulletin of the American Mathematical Society, 30(2), 161–178.**
    - Summary: In this essay, Thurston builds off of "Theoretical Mathematics: Toward a cultural synthesis of mathematics and theoretical physics" in an attempt to question what a mathematician should attempt to accomplish, if people understand mathematics, how mathematics is communicated, what a proof is, and what motivates us to do mathematics.

Week 3: Imperialism

Thursday: Ethnomathematics

- **d'Ambrosio, U. (1985). Ethnomathematics and Its Place in the History and Pedagogy of Mathematics. For the Learning of Mathematics, 5(1), 44–48.**
    - Summary: In this article, d'Ambrosio describes ethnomathematics by questioning the cultural history of mathematics and mathematics education. He also examines curriculum development in different nations and how this has led to divergent approaches towards doing mathematics.
- **Joseph, G. G. (1987). Foundations of Eurocentrism in mathematics. Race & Class, 28(3), 13–28.**
    - Summary: In this article, Joseph reveals the eurocentricity within mathematics. He discusses the problematic notion of "progression", identifies the features of eurocentric mathematics, and theorizes how eurocentricity can be countered in a classroom setting.

Tuesday: Colonization

- **Bishop, A. J. (1990). Western mathematics: the secret weapon of cultural imperialism. Race & Class, 32(2), 51–65.**
    - Summary: In this article, Bishop defines mathematics as a tool for cultural imperialism and identifies the primary agents of mathematical imperialism to be trade, administration, and education.
- **Nigam, A. (2017, June 25). Mathematics, Decolonization and Censorship: C. K. Raju. KAFILA - COLLECTIVE EXPLORATIONS since 2006; KAFILA - COLLECTIVE EXPLORATIONS SINCE 2006.**
    - Summary: In this blog post, Nigam describes the decolonization of mathematics. He questions the validity of proofs, examines the study of reason, and brings into question Bertrand and Russell's monumental proof that 1+1=2.
- **Assign the Midterm**

Week 4: What is Abolition?

Tuesday: Introduction to Abolition

- **Davis, Angela. (2003) 'Introduction: Prison Reform or Prison Abolition?; Are Prisons Obsolete? New York: Seven Stories Press, (p. 9-21)**

    - Summary: In this chapter, Davis introduces readers to the concepts of prison reform and abolition. She also discusses the naturalization of prisons in our landscape and questions whether prisons are obsolete.
- **Naber, N., & Rojas, C. (2021, July 16). To Abolish Prisons and Militarism, We Need Anti-Imperialist Abolition Feminism, Truthout; Truthout.**
    - Summary: In this article, Naber and Rojas, present the necessity of decolonization in the fight to abolish prisons. They also provide 9 concrete steps to end imperialism including: land returns to indigenous people, abolition of racial capital, abolition of heteropatriarchy, abolition of the military, the end of imperialist wars, the abolition of border control, the abolition of ideas like "criminal" and "crime", support for resistance movements, and creating community-driven social organizations.

Tuesday: Students' ideas

- **Look at two sources in the Marshall Project's "Prison Abolition: a Curated Collection of Links". Give a short synopsis of the piece and how it relates to Davis' "Are Prisons Obsolete" and other class materials.**

Week 5: Cryptography

Tuesday: Mathematicians as Cryptographers

- **Koblitz, N. (n.d.). The Uneasy Relationship Between Mathematics and Cryptography. Notices of the AMs, 54(8).**
    - Summary: In this article, Koblitz describes the joint history between mathematics and cryptography. He discusses the importance of RSA and elliptical cryptography, and the shift of cryptography from the political to the commercial world.
- **Corrigan-Gibbs, H. (2014). Keeping Secrets. Stanford Magazine.**
    - Summary: In this article, Corrigan-Gibbs addresses the problems facing mathematical research within the field of cryptography. They highlight a group of researchers at Stanford University who published a paper on cryptography in the 1970's but received backlash from the NSA.
- **Rogaway, P. (2015). The Moral Character of Cryptographic Work. University of California Davis.**
    - Summary: In this essay, Rogaway frames cryptography as a "political tool" and identifies its ever-present moral dimension. He also discusses the need for a community-wide cryptographic resistance against political and commercial surveillance.

Thursday: Military Mathematics

- **Thurston, B. (1987) Military Funding in Mathematics (p. 39-44)**
    - Summary: In this letter to the editor, Thurston presents his fear of increased military funding in mathematics. He explains the divide between academic and military research, and outlines how military research can halt the progress of mathematics.
- **Just Mathematics Collective. (2021). Mathematics Beyond Secrecy and Surveillance.**

    - Summary: In this pledge, the Just Mathematics Collective urges all mathematicians to stop working and writing recommendations for, receiving grants from, and collaborating with the NSA.

Week 6: Algorithms 1

Tuesday: Racist Algorithms

- **O'Neil, C. (2017). Weapons of Math Destruction (p. 1-49)**
    - Summary: In the first chapter, O'Neil defines what a mathematical model is and how they are used and coins what she refers to as Weapons of Math Destruction (WMD's). In the second chapter, she provides a story of her own disillusionment with algorithms while working in a hedge fund.
- **Raji, D. (2020, December 10). How our data encodes systematic racism. MIT Technology Review; MIT Technology Review.**
    - Summary: In this article, Raji discusses the problem of racist data on predictive policing and other algorithms. She also explains how to resist technology and outlines what we can personally do to counter racist technologies.
- **Ledford, H. (2019). Millions of Black People Affected by racial bias in Health-care algorithms. Nature.**
    - Summary: In this article, Ledford discusses racist algorithms in the healthcare industry. In particular, they discuss research which found that an algorithm which was heavily used in the healthcare industry was much less likely to refer black people to programs that improve complex medical needs than white people.

Thursday: Facial Recognition Biases

- **O'Neil, C. (2017). Weapons of Math Destruction (p. 50-104)**
    - Summary: In the third chapter, O'Neil discusses the discriminatory algorithms which determine acceptance into college. In the fourth chapter, she covers how online advertisements create debt for poor people and people of color.
- **Williams, T. Facial Recognition Software Moves From Overseas Wars to Local Police (Published 2015). (2022). The New York Times.**
    - Summary: In this article, Williams reveals the transition of facial recognition from military to police technology. He also questions the lack of training that police receive before using predictive policing software.
- **Buolamwini, J. Coded Bias | Films | PBS. (2022, March 2). Independent Lens.**
    - Summary: In this documentary, Buolamwini relates her personal experience working on facial recognition technology at the M.I.T. Media Lab and the oppressive impact that facial recognition has on people of color. The documentary ends with Buolamwini testifying before congress and founding the Algorithmic Justice League.

Sunday: Midterm Assignment Due

Week 7: Algorithms 2

Tuesday: Predictive Policing and Risk Assessments

- **O'Neil, C. (2017). Weapons of Math Destruction (p. 105-160)**

    - Summary: In the fifth chapter, O'Neil discusses the problem of predictive policing and risk assessment algorithms. In the sixth chapter, she describes how algorithms systematically ensure that poor people and people of color are unable to be employed. In the seventh chapter, O'Neil discusses the impact that algorithms have on employee hours and expectations at large companies.
- **Sassaman, H. & Henry, M. The Appeal Podcast: The Risks of Risk Assessment. (2020) The Appeal.**
    - Summary: In this podcast, Sassaman and Henry discuss the racist impact of risk assessment tools. They also question the lack of transparency in risk assessment algorithms and how this may harm the work of defense attorneys.

Thursday: Feedback Loops

- **O'Neil, C. (2017). Weapons of Math Destruction (p. 161-232)**
    - Summary: In the eighth chapter, O'Neil discusses the metrics used to determine credit scores. In the ninth chapter, she builds on her discussion of credit, to show how algorithms affect our ability to get insurance. In the tenth chapter, she explains how algorithms shape our everyday lives and in the conclusion, she theorizes how mathematicians and data scientists can help abolish WMD's.
- **Ensign, D., Friedler, S., Neville, S., Scheidegger, C., Venkatasubramanian, S., & Wilson, C. (2018). Runaway Feedback Loops in Predictive Policing. Proceedings of Machine Learning Research, 81, 1–12.**
    - Summary: In this research paper, Ensign, Friedler, Neville, Scheidegger, Venkatasubramanian, and Wilson examine the problem of feedback loops in PredPol, one of the largest predictive policing technology and conclude that they are ineffective and discriminatory. This article discusses many mathematical concepts that are used in the algorithm itself and may be difficult for all students to understand.
- **Castelvecchi, D. (2020). Mathematicians urge colleagues to boycott police work in wake of killings. Nature.**
    - Summary: In this article, Castelvecchi discusses the "Letter to AMS Notices: Boycott collaboration with police", signed by 1,400 researchers who agreed to not work with the police. He provides a summary of the historical biases in predictive policing algorithms and relates the importance of canceling lectures with mathematics who work in tandem with the police.

Week 8: Geometry

Tuesday: Mathematics of Gerrymandering

- **Wines, M. What Is Gerrymandering? And How Does It Work? (Published 2019). (2022). The New York Times.**
    - Summary: In this article, Wines defines gerrymandering and relates where gerrymandering is most "notable" today,and how the supreme court has reacted to it.
- **Duchin, M. (2018). Geometry v. Gerrymandering. Scientific American, 319(5), 48–53.**
    - Summary: In this article, Duchin describes how mathematicians use statistics to identify and combat gerrymandered districts. They go over the mathematical concepts which fold into gerrymandering, including population density and compactness.

- **HarveyMuddCollegeEDU. (2016). Karen Saxe: Mathematics & Social Justice [YouTube Video]. On YouTube.**
    - Summary: In this lecture, Saxe describes how mathematicians can fight against gerrymandering. She goes through three types of compactness measurements including, Roeck, Population Circle, and Polsby-Popper to explain how each works and test which is the most helpful to identify districts that have been gerrymandered.

Thursday: Prison Gerrymandering

- **Fisher, G., King, T., & Limón, G. (2022, March 24). Prison Gerrymandering Undermines Our Democracy. Brennan Center for Justice.**
    - Summary: In this article, Fisher, King, and Limón outline the impact that the location of prisons and where those who are previously incarcerated can live skews the census. They go into detail about how prison gerrymandering distorts population statistics, deprives people of color of representation, and leads to other forms of systematic discrimination.
- **Mansoor, S., & Carlisle, M. (2021, July). When Your Body Counts But Your Vote Does Not: How Prison Gerrymandering Distorts Political Representation. Time; Time.**
    - Summary: In this article, Mansoor and Carlisle, discuss gerrymandering through the story of Floyd Wilson, who was incarcerated for over 35 years. The work covers how prison gerrymandering functions, how it leads to those who are incarcerated being miscounted, and how one can help abolish prison gerrymandering.

Week 9: Ethics

Tuesday: Does math have ethics?

- **Shulman, B. Is There Enough Poison Gas to Kill the City?: The Teaching of Ethics in Mathematics Classes. (2018). The College Mathematics Journal.**
    - Summary: In this essay, Shulman discusses ethics in mathematics and mathematics education. She counters the notion that math is an absolute truth by using her personal story and research to show the ambiguity of mathematics.
- **Wells, R. O., Manin, Yu. I., Koblitz, A., & Koblitz, N. (1983). Mathematics as Propaganda. The American Mathematical Monthly, 90(6), 415.**
    - Summary: In this essay, Koblitz discusses how mathematics appears in popular culture. The topics that he addresses include the relationship between mathematics and slavery, IQ, and how mathematics propoganda can even be used to support mathematical research.

Thursday: Student Ideas

- **Students bring in one article, book, song, podcast, artwork or other media related to any of the themes in the previous readings and give a short synopsis of the piece**
- **Assign Final Project**

Week 10: Decolonizing Mathematics

Tuesday: The Myth of Math

- **Baghatari. (2020). Decolonise math = Eliminate the myth, fraud, and superstition in formal math by Dr. C. K. Raju [YouTube Video]. On YouTube.**
    - Summary: In this video, Baghatari attempts to "decolonize" mathematics at what he refers to as the "level of 1+1=2". He questions the philosophies and fraud that went into formalizing mathematics and presents a re-imagined mathematics education.

Thursday: Decolonization

- **Ashman, G. (2021, March 4). Decolonising Math is Rooted in a Decades-Old Conflict. Quillette; Quillette.**
    - Summary: In this article, Ashman discusses the problem of having only "right" versus "wrong" answers in mathematics. He classifies this duality as an aspect of whiteness in mathematics education and explains how it excludes people of color from the discipline.
- **Garcia-Olp, M., Nelson, C., Saiz, L. Decolonizing Mathematics Curriculum and Pedagogy: Indigenous Knowledge Has Always Been Mathematics Education. (2022). Educational Studies.**
    - Summary: In this article, Garcia-Olp, Nelson, and Saiz illustrate the work of indigenous scholars towards decolonizing mathematics. The four methods they identify for decolonizing mathematics include adding belonging, mastery, independence, and generosity to mathematics education.

Week 11: Representation

Tuesday: In the Classroom

- **Battey, D., & Leyva, L. (2016). A Framework for Understanding Whiteness in Mathematics Education. Journal of Urban Mathematics Education, 9(2), 49–80.**
    - Summary: In this article, Battery and Leyva explain the racialized nature of mathematics. They utilize this explanation to show how mathematics perpetuates whiteness through its institution, labor, and identity.
- **Kim, T. (2021, December 8). Racism in our curriculums isn't limited to history. It's in math, too. Washington Post; The Washington Post.**
    - Summary: In this article, Kim discusses Chinese representation in mathematics education. Specifically, he looks at the naming of the Chinese Remainder Theorem versus Euclid's algorithm to point out how Chinese people are simultaneously overlooked and tokenized.

Thursday: In the Academy

- **Williams, S. A Modern History of Blacks in Mathematics. (2022). Buffalo.edu.**
    - Summary: In this bibliography, Williams provides a list of modern black mathematicians as well as their contributions to the field of mathematics. The resource includes descriptions for over thirty influential black mathematicians.

- **Harmon, A. For a Black Mathematician, What It's Like to Be the "Only One" (Published 2019). (2022). The New York Times.**
    - Summary: In this article, Harmon discusses the life of Edray Goins, one of few black mathematicians to receive a doctorate. Harmon addresses the challenges associated with being a black mathematician and what led Goins to eventually leave mathematics behind.

Week 12: Abolition

Tuesday: Anti-Racism

- **Frame, M. (2020). Geometry of Grief: Reflections on Mathematics, Loss, and Life. Chicago, Illinois: University of Chicago Press. (P. 1-93)**
    - Summary: In the prologue, Frame discusses his personal relationship to mathematics and grief through the death of his Aunt. In the first chapter, he presents the beauty of geometry as a form of artwork and poetry. In the second chapter, he examines the elements which constitute grief. In the third chapter, he ties beauty, grief, and mathematics into one framework.
- **Rivera-Quinones, V. (2020). What does anti-racism in mathematics look like? |. Ams.org.**
    - Summary: In this blog, Rivera-Quinones questions what anti-racist mathematics could and should look like. She identifies the primary way to do this is by keeping black students in mind while developing lesson plans. She also urges mathematicians to work in community to develop an anti-racist matehamtics education.

Thursday: The Fight Back

- **Re-Read: Meiners, E. & Bullock, E. Abolition by the Numbers Mathematics as a Tool to Dismantle the Carceral State (and Build Alternatives). (2019). Theory into Practice.**
    - Summary: In this article, Meiners and Bullock, examine Mathematics and Mathematics education through a lens of abolition. They discuss how Mathematics education is "an agent of the carceral state", explain the necessity of abolition, and describe how mathematics can be re-thought to create an anti-carceral and anti-capitalist world.
- **Look through: Data 4 Black Lives. (2022). D4bl.org.**
    - Summary: Data 4 Black Lives is an organization made of activists and mathematicians who use data science to help fight for black lives. On their website, they have a link to programs, conferences, events, actions, press, blogs, and their current research.

Week 13: Liberation

Tuesday: Prison Mathematics Project

- **Haran, B. (2022). An Infinite Debt - with Christopher Havens (Prisoner #349034) - Numberphile Podcast [YouTube Video]. On YouTube.**

    - Summary: In this podcast, Haran interviews Christopher Havens, an incarcerated mathematician at Monroe Correctional Complex. While incarcerated, Havens published an important mathematics paper and began the Prison Mathematics Project. Haran uses this story to emphasize the liberatory nature of mathematics within the prison setting.
- **Look through: Prison Math Project – The Prison Mathematics Project. (2012).**
    - Summary: The Prison Mathematics Project is an organization that teaches mathematics in prisons and provides those who are incarcerated with an escape from the monotony of incarceration.

Thursday: New Beginnings

- **Frame, M. (2020). Geometry of Grief: Reflections on Mathematics, loss, and life. Chicago, Illinois: University of Chicago Press. (p. 93 - 129)**
    - Summary: In the fourth chapter, Frame provides a poetic story that connects the grief of losing his mother to the action of plotting graphs. In the fifth chapter, he discusses the connection between mathematical fractals and his own mental repetition while coming to terms his fathers death.
- **Anderson, S. E. (1970). Mathematics and the Struggle for Black Liberation. The Black Scholar, 2(1), 20–27.**
    - Summary: In this essay, Anderson outlines the need for black mathematicians to counter racism in the sciences. He also breaks down the need for mathematics in elementary, secondary, college education, and everyday life of black people.
- **Gordon, M. Conflict and Liberation: Personal Aspects of the Mathematics Experience. (2014). Curriculum Inquiry.**
    - Summary: In this essay, Gordon questions why so many people despise mathematics. He outlines his personal experiences in mathematics and emphasizes how mathematics can become a source of liberation.

Sunday: Final Project Due

Two Sample Lesson Plans

Lesson Plan 1.

- **Title**
    - Week 7: *Algorithms 2, Feedback Loops*.
- **Student Objectives**
    - Recognize the two primary types of predictive policing algorithms (PPA's).
    - Connect the early eugenic history of body-politics to modern day surveillance aparati.
    - Understand the basic mathematics behind how runaway feedback loops work and the impact that they have on predictive policing algorithms.
- **Assessment Plan**
    - Students' ability to engage in classroom discussion on PPA's through questions, comments, and lived experiences.
- **Description**
    - **(10 minutes)** - Begin lecture by asking five students (whoever raises their hands) what they took to be the most interesting and confusing from "Runaway Feedback Loops in Predictive Policing".
    - **(10 minutes)** - Lecture on the primary ideas presented in "Runaway Feedback Loops in Predictive Policing".
        - This includes:
            - What the researchers were examining
            - How they conducted their research
            - What results they found
    - **(5 minutes)** - Answer any questions the class may have
    - **(10 minutes)** - Split the class into groups of three and have them think of three connections they see between eugenics and predictive policing software
        - Several key points include:
            - Policing bodies
            - "Scientifically" Predicting behavior
            - Collecting data from minorities
    - **(10 minutes)** - Ask each group to share about one thing that they discussed
    - **(5 minutes)** - Answer any questions the class may have
    - **(10 minutes)** - Introduce the class to the two different methods of predictive policing and discuss how both fit into different body-politics.
        - This includes:
            - Location-based predictive policing algorithms
            - Person-based predictive policing algorithms
    - **(10 minutes)** - Split the class into groups of five and ask them to think about what other systems are similar to PPA's and also have them theorize how one could go about combatting PPA's

Lesson Plan 2.

- **Title**

    - Week 1: *Abolitionist Mathematics, Mathematics and Abolition*
- **Student Objectives**
    - Understand the course concepts, materials, and expectations
    - Begin to think about how mathematics and abolition can be tied together
- **Assessment Plan**
    - Students recall and convey important aspects from the reading
    - Students contribute to the overall conversation and group discussions
- **Description**
    - **(10 minutes)** - Begin the lecture by introducing myself and asking each of the students to introduce themselves.
    - **(10 minutes)** - Ask the students why they decided to take the course, whether they be Mathematics, Africana Studies, Education, or Philosophy majors, or if they are just interested in the material
    - **(10 minutes)** - Split the class into groups of three and have them talk about the primary points in two of sections from the reading
        - This includes:
            - "Mathematics Education and Neoliberalism" and "Mathematics Education, An Agent of the Carceral State"
            - "Why Abolition?" and "Abolitionist Logic for Mathematics Education"
            - "Building a Different Mathematics Education Practice" and "Embrace Ethnomathematics Epistemology and Practices"
            - "Challenge the Anti-Black Capitalist Opportunity Structure That Underscores Institutional Mathematics" and "Build Restorative/Transformative Justice"
    - **(10 minutes)** - Ask each group to share one thing that they discussed
    - **(5 minutes)** - Answer any questions the class may have
    - **(10 minutes)** - Ask the students what, if anything, they were confused by or disagree with in the reading.
    - **(10 minutes)** - Ask the student to write a paragraph explaining their relationship to mathematics.
        - These include:
            - What is mathematics?
            - What is a mathematician?
            - What was your favorite part of learning mathematics?
            - What was your least favorite part of learning mathematics?
    - **(5 minutes)** - Wrap up