

HIDDEN FIGURES (2016): NARRATIVE BREAKDOWN

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Screenplay: <https://s3-us-west-2.amazonaws.com/script-pdf/hidden-figures-script-pdf.pdf>

Based on: Margot Lee Shetterly's non-fiction book, *Hidden Figures: The Untold Story of the African American Women Who Helped Win the Space Race*.

*****Act One*****

Pages 1 to 32:

We open in darkness, a little girl counting and picking out the prime numbers in the sequence. This is eight-year-old Katherine Coleman. She is described as a peculiar 'mouse of a child'.

A title card reads: White Sulphur Springs, Virginia – 1926

Katherine's parents take her to a 'colored' grammar school. As they walk down the corridor, Katherine picks out all the geometric shapes she sees.

In the principal's office, Katherine's parents are told that she has a scholarship to West Virginia Collegiate Institute, described as the 'best school for Negroes in the state' past the eighth grade. Even though she's only in the sixth grade, the school wants her now. Her parents are overwhelmed. The principal gives them an envelope of money collected from other parents to help them get settled in. The principal tells them she has a remarkable mind that they must allow her to fulfil her potential.

In the next scene, the Colemans head for West Virginia, including Katherine's young siblings. Katherine studies the geometric shapes on the cows they pass.

In class, Katherine is caught by the teacher staring out the window instead of focussing on quadratic equations. He calls her up to the front of the class (of older students) to solve an equation. She furiously and passionately figures out the equation, scribbling out her workings on the board and, of course, producing the correct answer.

We then have the main title sequence.

Commentary: *What a great way to set up a character and the story to come. On page one, Katherine is established as a remarkably gifted child with a curious mind for maths, who has a chance to fulfil her potential. The scene in the principal's office reminds us that opportunities like the one she has are rare for a black child in 1920s Virginia. It also tells us that the story is going to involve numbers, a thread that will run through the narrative. At her new school, Katherine quickly establishes her aptitude in a class of older peers with a stern teacher, foreshadowing how she will need to prove herself in her later career and to rely of her superior mathematical ability.*

We next meet Katherine at aged 38, staring out the passenger side window of a Chevy Impala that has broken down in the middle of nowhere.

We're now in Hampton, Virginia in 1961.

Under the car is Dorothy Vaughn, 40s, who is described as a ‘brilliant, tough, mechanically gifted’. Also present is Mary Jackson, 30, who, in contrast, is ‘spirited beauty, free-tongued, unbridled’.

The women struggle to fix the car. We learn that they need to car to get to work 16 miles away, or else they’ll be forced to walk ‘or sit on the back of the bus’. Mary says she’d rather hitchhike.

Mary sees an approaching police car. The women get nervous. The encounter with the white cop is initially hostile, until they tell him they work at Langley for NASA calculating getting the rockets into space. The patriotic cop quickly changes his tune when he learns that they work with astronauts such as John Glenn on the revered US Space Program, which is competing with Russia’s programme. The cop offers to give the car a tow, but Dorothy gets it running. The cop gives them a police escort to work. ‘...Three “colored” women are chasing a white police officer down the highway in Hampton, Virginia, 1961’, Mary laughs as they drive away at speed.

Commentary: *This scene introduces us to the story’s other protagonists, Dorothy and Mary, drawing clear distinctions between all three main characters, as well as underlining their resourcefulness. We also get to see first-hand what they’re up against, racist white cops and a segregated society. However, the scene quickly turns when the cop finds out what they do for a living. The scene also gives us a potted history of the Space Program, including the involvement of women. Overall, the scene packs a lot of exposition into four pages, effectively setting up what is to come.*

The women arrive at work with their police escort. We see the ‘sprawling campus of NASA’ with its hangars and tight security.

We are then taken into space, looking down on Earth. The peaceful image is shattered by a rocket roaring through the scene. We hear a tense Russian voice communicating in translated English.

The sequence continues as we move between space, the White House and a NASA control room. The US is focussed on the progress of the Russian rocket. The success of the Russian mission troubles the NASA engineers and administrators, as well as JFK.

Commentary: *The rocket in question was launched in March 1961. It was called Korabl-Sputnik 4 (or Sputnik 9 in the US) and operated as the first test flight of the Vostok spacecraft. The significance to the story is the ongoing Cold War-era ‘space race’ between the US and Russia over competing spaceflight capabilities. The race culminated in the 1969 US Apollo 11 mission, during which Neil Armstrong became the first man to walk on the moon, beating the Russians.*

Following a victorious Russian press conference, administrator Jim Webb comments that the dropping of a thermonuclear warhead on Iowa will be Russia’s next target. The other key characters present are lead engineer Paul Stafford, associate engineer Sam Turner and administrator Al Harrison. Harrison disputes the connection, but Webb calls out the US’ ‘inaction and indecision’ in moving forward with the space programme.

Commentary: *While Hidden Figures is based on a true story, Al Harrison is a fictional character. His real-life counterpart was Robert R. Gilruth, director of NASA’s Manned Spacecraft Center. This scene brings another*

dimension into the story, the Cold Era spectre of nuclear war and how Russian capabilities in space were seen by some as paralleling their nuclear capabilities. It is important that we understand the gravity of US-Russian relations and the wider context in which NASA operated, so that we understand the pivotal role the protagonists played. The script does an especially good (and concise) job in this regard.

In the next scene, Harrison tells Turner that Webb was right about the Russians developing a bomb. He makes clear that maths is the key to the US winning the space race and asks about NASA's fancy new machine, the IBM. Harrison expresses frustration that NASA doesn't have anyone who knows analytic geometry.

Commentary: *The mention of geometry immediately takes us back to Katherine and her fascination with geometric shapes. We can also start to see how the narrative is shaping up, with our protagonists helping NASA to use superior maths to beat the Russians.*

We move from state-of-the-art NASA control to the grim West Computing Room, with its 'Colored Computers'. Dorothy assigns the day's work assignments. Mary is excited to be sent to work with the Mercury 7 prototype.

Commentary: *Project Mercury (1958 to 1963) was the first US human spaceflight programme. In this context, 'Computers' was the label given to the human mathematicians that did the underlying calculations for NASA.*

Vivian Mitchell, Supervisor of Female Computers, arrives and asks Dorothy whether any of the employees knows about analytic geometry. Dorothy immediately recommends Katherine. Dorothy catches up to Vivian and asks about her application to become supervisor, only to be told that they're not assigning a permanent supervisor to the 'Colored Group'. Dorothy tells Vivian that she's already doing the work of a supervisor. Vivian shrugs off her pleas. Dorothy is left seething.

Mary arrives at her Mercury 7 assignment and we get to see the capsule up-close. Mary is clearly excited to be involved. A tunnel test begins, and fans whip up a violent wind. Mary hurries away but gets her heel caught in a grating. Engineer Karl Zielinski's voice is heard over the PA system, telling Mary to get out. Mary escapes just in time, as the winds become intense and deafening. The prototype rattles and shakes in the turbulence. It loses a bolt from the heat shield, which flies through the control booth window. Zielinski tells the team to stop the test.

Mary and Zielinski inspect the prototype. Mary displays a talent for engineering that impresses Zielinski. He reminds her about NASA's engineer training programme, but she declines. Even though it's her dream, she says that as a Negro woman, the goal is 'impossible'. Zielinski tells her that as 'a polish Jew whose parents died in a Nazi prison camp', his ascend in NASA was also seemingly impossible.

Commentary: *Note that the prototype malfunction involves the heat shield. This is a set-up that will be paid off much later in the story. A further set-up involves Katherine and a pearl necklace, which is mentioned by Ruth in the next scene.*

Vivian takes Katherine to her analytic geometry assignment at the Space Task Group, briefing her on the way about how she should dress and behave in front her new boss, Al Harrison. Vivian tells her that ‘not many Computers last more than a few days’, as Harrison is hard to please. ‘They’ve never had a colored in here before, Katherine. Don’t embarrass me,’ are Vivian’s parting words to Katherine.

Commentary: *Note how over the previous three scenes the main professional obstacles the three protagonists face have been clearly laid out. Dorothy can’t get the promotion or recognition she deserves; Mary believes she can’t pursue the engineering career she desperately wants; and Katherine is facing a challenging assignment working for an intolerant boss. These scenes bring the issue of race into sharp focus. Black women can work for NASA, but they can’t get ahead and face unequal treatment, even when they possess superior intellect and skills.*

The Space Task Group is a hub of activity. Turner mistakes Katherine for the cleaning woman. The only other woman there is Ruth, who directs Katherine to her desk at the back of the room next to Stafford. Ruth advises Katherine to keep her head down and do her work.

Commentary: *Note how Katherine’s desk is purposely described as being at the back of the room. It recalls the line about sitting at the back of the bus from an earlier scene. This is the daily reality. This is a further set-up that will pay off with Mary later on in the story.*

Harrison emerges from his office and barks at Stafford about the heat shield that failed in the wind tunnel test, in which Mary got caught. Harrison then demands to know the status of the IBM. Ruth directs him to

Katherine. Harrison quickly learns that Katherine knows what she's talking about when it comes to analytic geometry. He gives her an assignment, which includes checking Stafford's and the other's maths, sowing the seeds of hostility. Harrison then addresses the room. He reminds the team that in 14 days, the Mercury 7 astronauts will arrive for training and that the Space Task Group is tasked with 'putting a human on top of a missile and shooting him into space'; something that have never before been accomplished.

Commentary: *On page 25, the story and the stakes have been firmly established. The Mercury 7 training and forthcoming mission set a ticking clock, and we know that what Katherine and the rest of the team Space Task Group does, aside from beating Russia in the space race, could be the difference between the astronauts completing their mission and returning home safely, or not.*

In the next scene, Stafford gives Katherine a heavily redacted report and tells her the rest is classified, making it hard for her to check his figures. He joins his colleagues, who are all talking about her. Katherine then asks Ruth for directions to the ladies' room. 'I have no idea where *your* bathroom is,' Ruth replies. Katherine struggles to find a 'colored' restroom and ends up going back to her old department, half a mile away.

Commentary: *This highlights the inequities faced by Katherine and her black colleagues, this scene makes her predicament even more relatable. Who hasn't struggled to find a restroom at one time or another? Only, in this case, the colour of her skin is denying her a basic human right. It also highlights the lack of black employees in this part of NASA's operation.*

Katherine returns to the Space Task Group to find Harrison looking for her. He gives her a huge stack of additional work, which she must finish that day. The other staff are aghast when she uses the office's only coffee pot.

Katherine works late to get the work done. She and Harrison are the only ones left in the office. When she turns in her report, Harrison throws it on the top of a trash pile of similar reports and tells her that it's no reflection of her abilities, just that the maths is already obsolete. Harrison is clearly obsessed with his task and on getting the maths right. He tells her that he's searching for maths that 'doesn't yet exist' in order to get a man on the moon. Harrison lets Katherine go home. She walks away, frustrated.

Outside, Dorothy and Mary are impatiently waiting for Katherine. On the car ride home, Dorothy complains about doing a supervisor's job without the title or recognition, while Katherine fears she won't last long with the Space Task Group and may be out of a job.

Overall: We've had an eventful first act in this multi-protagonist story. We've seen the day-to-day challenges facing Katherine, Mary and Dorothy, who are each gifted but disadvantaged. While they have good jobs at NASA, as black women, they are held back from promotion within the company and face hostility from the other employees. Katherine has emerged as the most central of the three leads and we've seen her superior maths ability, which will be severely tested as she moves to the Space Task Group under the demanding and obsessed Al Harrison, who is determined to safely put the Mercury 7 astronauts in space. All this takes place under the spectre of the US-

Russia space race and the underlying threat of nuclear war. So, the main macro and micro conflicts have been introduced and defined by the end of Act One, paving the way for Act Two, in which we will learn more about the protagonists' personal lives and see how they tackle their collective and individual obstacles, as the clock counts down to the Mercury 7 mission.

*****Act Two Part 1*****

Pages 32 to 60:

Katherine arrives home. Her mother Joylette is enthusiastic and encouraging about her daughter's Space Task Group assignment.

Katherine goes to see her three young daughters, who are still awake despite the late hour. The kids are arguing about who gets the single bed, forcing the other two to share the double. Katherine gathers the kids around. The youngest, six-year-old Kathy, tells her mother, 'you've been gone for 300 hours'. 'I have to be the mommy and the daddy,' Katherine replies. The mention of the girls' late father casts a pall over the room. The girls settle into bed. Eight-year-old Constance asks if the Russians are going to attack. Joylette, 10, reveals her class had a drill in which they had to hide under their desks. Katherine reassures them. Constance asks if Katherine is going into space. '...I'm going to help those brave men do it. The best I can', she replies. Kathy tells her mother she could be an astronaut if she wanted to. The comment touches Katherine.

Commentary: *This scene subtly weaves in exposition about Katherine losing her husband and having to support the household. She's also revealed to be a loving mother and daughter. Additionally, we are reminded of the pervading threat from Russia. The scene also introduces a potential line of conflict, with Katherine's demanding assignment likely to keep her working long hours and potentially neglecting her kids.*

The next scene takes place in a packed church on a Sunday. Our three protagonists are in attendance with their families. Dorothy and Mary are with their husbands and kids. Pastor Ayres is delivering the sermon. He

talks about how change is coming for black folks, singling out Katherine, Mary and Dorothy for their work on the space programme, who are described as being ‘revered’ in the community. Ayres also references the local National Guard and its leader, Col. Jim Johnson.

Commentary: *Note how the white/black contrast is one of the motifs of the story, with white corridors at NASA and what is described as a ‘white church for an all-black congregation’. This will appear again in the narrative. Black folks entering a white landscape.*

Following the services, the congregation enjoys an outdoor buffet. Mary and her husband Levi talk about her becoming an engineer as they serve their kids food. He tells her it’ll never happens and clearly seeks change in a more direct way. *‘Freedom is never granted to the oppressed. It’s got to be demanded. Taken.’* He tells her. Young Levi tells his parents he doesn’t want the greens on his plate. Mary replaces it with macaroni and cheese, but Levi insists on him eating his greens. *‘Kid needs to eat vegetables. You would know that, if you were home’*, he tells her. Mary stands her ground.

Commentary: *We learn much more about Mary in this scene and her family dynamic. Mary’s engineering ambitions are clear, but Levi is pragmatic about her chances. While this comes across as unsupportive, he’s also a realist. ‘I don’t want to see you get hurt. NASA’s never given you gals your due,’ he says. We also see the tension of Mary’s long working hours.*

Katherine and Dorothy are feeding their kids. Mary comes over and tells Katherine to go and talk to Col. Johnson, who she describes as ‘a tall

glass of water'. Col. Johnson smiles over to Katherine and walks over. Mary talks up Katherine, before she and Dorothy leave her alone with the colonel.

Katherine and Col. Johnson take a walk together. When she tells him her occupation, he clumsily expresses surprise that NASA lets women get involved with aeronautics. He tries to back pedal, but she puts him in his place. *'On any given day I analyze the manometer levels for air displacement, friction and velocity and compute over 10,000 calculations by cosine, square root and lately Analytic Geometry'*, she says before walking away, leaving him speechless but intrigued.

Commentary: *The introduction of Col. Johnson starts a minor subplot for Katherine that will supply some light relief as the space tech stuff comes to the fore.*

At NASA, the Mercury 7 astronauts arrive for their mission training. The entire staff of NASA is there to greet the men, with the 'Colored Computers' department the last in the line. Dorothy knows the biographies of each of the astronauts. Ruth tries to lead the astronauts away before they can shake hands with the black employees. However, John Glenn catches Dorothy's eye and goes over to meet the women, accompanied by the other astronauts. Glenn chats with Dorothy, Katherine and Marry, who are all in awe of the handsome visitor. The Mercury team proceeds to shake hands with the rest of the computer section.

The Mercury astronauts attend a press conference in a NASA hangar. One of the reporters shouts out a question about the safety of space travel. Glenn replies that they have no time to be scared.

The Space Task Group is described as a ‘madhouse’. Katherine makes coffee at her new ‘colored’ coffee station. At Katherine’s desk, Stafford drops off more heavily redacted reports, which mean she can’t check the calculations. He tells her it’s a ‘a dummy check’. Katherine tries her best to make out the redacted figures. Her curiosity is captured by the Redstone Rocket Trajectories.

Later, Dorothy sees the arrival of the anticipated IBM, which is too big to fit through the door.

Commentary: *A clever scene, which includes the humorous sight of technicians trying to get the big fancy IBM into the computer room as Harrison looks on in exasperation. However, the presence of Dorothy reminds us that the machine is likely to make the human computers at NASA obsolete.*

Dorothy arrives at the comfortable and well-equipped all-white East Computing Room. She drops off her worksheets with Vivian and is given more work to take back. Dorothy asks about the IBM. Vivian tells her that the computer can do the work of a human in a fraction of the time.

Commentary: *The advent of the IBM adds yet another layer to this story. Life is moving on and some will get left behind.*

At the Space Task Group, Katherine is working on the Redstone Rocket trajectory. She chucks calculations on the board and finds something interesting. She runs out of the office for the ‘colored’ restroom over in the West Computing Building.

In the Space Task Group office, Stafford is staring at Katherine's work. Turner arrives and Harrison demands answers. Katherine has clearly hit a nerve.

Seated in Harrison's office, Turner, Stafford and Harrison grill Katherine about how she knew the Redstone couldn't support orbital flight, which is classified information. She is distressed but stands her ground. Harrison figures out that Katherine pieced her findings together from the unredacted parts of Stafford's report. Harrison asks her about a piece of information she knew that wasn't in the unredacted part of the report. She admits she held the report up to the light. Harrison asks if she's a Russian spy. Once he's satisfied that she's not, he orders Stafford to give her all the information on the trajectories, unredacted, much to Stafford chagrin.

Commentary: A nice example of a 'turning' scene here, in which Katherine fears she's in trouble before Harrison 'rewards' her with the information she needs to do her job properly, resulting in a victory for the protagonist at the expense of her hostile co-worker. Also, a point about incorporating complex technical information into a script. Ask yourself, what does the audience need to know? In this case, we don't need to understand the Redstone stuff; the idea is that Katherine demonstrates her knowledge and is brought fully into the team as Harrison sees her true worth. Don't waste time explaining technical details unless they're integral to the plot, in which case, make the explanation quick, simple, and entertaining. If possible, show, don't tell. *Hidden Figures* uses a large chalkboard for this purpose. We get to see Katherine's superior maths intellect at work as she scribbles her equations, plus the diagrams help us to get the gist of what the team is trying to accomplish.

The next scene takes place in NASA's 'colored cafeteria', where the women are getting lunch. Mary admires Katherine's new Space Task Group credentials. Dorothy makes a comment about the IBM making the computer employees obsolete.

Vivian arrives and makes a beeline for Mary, who has evidently applied to the NASA engineering programme. Vivian tells her she doesn't have the educational requirements. Even though she holds the requisite degree in maths and physical sciences, she is now required to complete advanced extension courses through the University of Virginia. Mary comments that every time black folk get the chance to get ahead, the finish line is moved. Vivian retorts that she should be grateful to have a job.

Commentary: *Note how much we learn indirectly about the women and their experiences. Mary's educational achievements are a good example. We can imagine her struggles without needing to see what she went through to get to university and achieve her degree.*

Later, the women meet at Dorothy's house. Mary is still upset about the new engineering programme requirements. Dorothy tells her to stop talking about it. The women get tipsy on homemade whiskey mash and have a good time.

The next scene takes place outside the Hampton County courthouse. A Civil Rights protest is in progress. Mary's husband Levi is in the thick of the action. Dorothy arrives with her kids and sidesteps the protest, as she heads for the library.

Dorothy finds the book she needs, *Fortran, The New Language of Computers*, in the white section. The librarian confronts her, and she's escorted out of the building by security.

At the back of the bus on the way home, Dorothy tells her kids that separate and equal are two different things. 'Just cause it's the way, doesn't make it right'. She then takes the *Fortran* book from her bag, telling her kids that taxes pay for everything in the library, so she had a right to take it.

Commentary: *These scenes are important as they show us the world outside of NASA, which itself operates as a microcosm of society. We also get to see the women away from their place of employment and see how their unfair treatment extends beyond the confines of NASA.*

A title card reads: April 12, 1961

Dorothy is hosting a birthday party for one of her kids. Mary and Katherine are there. Col. Johnson arrives with a bunch of flowers for Katherine.

Later, Col. Johnson and Katherine dance. He apologises for his earlier comments. He tells her he wants to get to know her better. She warms to him.

The music programme on the radio is interrupted by an announcement that Russia's Yuri Gagarin, has become the first man in space, beating the US. The mood in the room drops.

The scene shifts to NASA, where newsreel plays footage of Gagarin's capsule in orbit, dealing a blow to the US space race. The devastated Mercury 7 astronauts walk out, leaving Harrison et al to absorb the defeat. Harrison addresses the Space Task Group. He tells the employees that he doesn't believe the Russians are smarter, just that they work harder and everyone on the team should expect to work late every day to get the Mercury 7 mission ready for launch. Everyone calls home to relay the news to their families that they will be home late.

Overall: This section of the story has heightened the stakes, with each of the women facing their own challenges. Katherine is proving her worth at the Space Task Group but must still grapple with the intellectual demands of the role, as well as prejudices that prevent her from being seen as an equal. Mary must overcome obstacles to reach her goal of becoming an engineer, while Dorothy's job is becoming obsolete as the IBM computer is brought in to do the calculations. In this section, we've also met Katherine's love interest, Col. Johnson.

We reach midpoint on a negative note, as Russia's Gagarin becomes the first man in space, beating the Americans. This fires up Harrison, who is determined that the Space Task Group will not be beaten through a lack of dedication. This sets up the second part of Act Two, in which the team will work towards the next milestone, putting a man into orbit. This will call on Katherine's intellect in a whole new way, while Mary and Dorothy continue to proactively take charge of their own destinies.

*****Act Two Part 2*****

Pages 61 to 94:

There is montage which shows us NASA preparing for the Mercury 7 launch, led by astronaut Alan Shepard. At her desk, Katherine battles with a cold as more work is delivered with the instruction to have it done by the end of the day. Meanwhile, Dorothy goes into the IBM room and finds a user manual, while Mary files a case at the courthouse to be allowed to take the classes so she can join the engineering programme.

In the next scene, Dorothy teaches her team the IBM 7090 Data Processing System. Some of the group members are sceptical, but Dorothy tells them that if they want to keep their jobs, they will need to learn how to programme the IBM. Now she has their attention.

Dorothy continues to get to grips with the IBM, while Mary tells Zielinski about her court date. He's happy for her.

Katherine is at home and sick with flu when Col. Johnson arrives with hot soup. He sits down to eat with her and the kids, who take a great interest in him.

Commentary: *This montage of scenes (starting midway down page 61 and ending near the top of page 64) shows each of our protagonists taking control of their lives in different ways to benefit themselves, but also the wider space programme. It's an effective way to move the narrative forward and to set each of the women on a new path. For Dorothy, it's learning computer programming; for Mary, it's fighting to achieve her engineering ambition; and for Katherine, it's opening her heart to Col.*

Johnson, as well as moving ahead with her Space Task Group role, which has become more intense and focussed following Gagarin's success.

At the Space Task Group, Harrison needs Shepard's trajectories updated. He's frustrated that he can't find Katherine, who's in the 'colored' ladies' room across the campus. She runs back in the rain to find Harrison angry and demanding to know why she was gone so long. Unable to hold her tongue any longer, Katherine angrily tells Harrison that there is nowhere for her to pee in the building and that she's forced to make her coffee using a pot that half the building doesn't want to touch. She walks away.

Later, she finds Harrison at the West Computing Group with a team of technicians tearing the 'Colored Restroom' signs off the bathroom doors, as Mary, Dorothy and the other employees look on in wonder. Harrison declares there are no more segregated bathrooms, and that everyone can use whatever restroom they want to, preferably close to their desk, he says pointedly to Katherine. The script describes a scene of shock, pride and justice.

A title card reads: May 5, 1961.

It's the day of the Mercury 7 launch.

Katherine and Col. Johnson go for a drive and a picnic. They kiss.

At Dorothy's house, a crowd is gathered to watch the much-anticipated Mercury 7 launch on television.

We join Shepard and the crew as they prepare for launch. Everyone is tense and anxious ahead of this landmark event.

We alternate between Dorothy's house, the capsule, and NASA mission control as the countdown begins. The whole team celebrates a successful lift-off.

In voice-over, we hear John F Kennedy making his 'Space Race' speech, as we see a parade in progress with the returned Mercury 7 astronauts at the centre. At the White House, Shepard receives the NASA Distinguished Service Award from JFK.

At the Space Task Group, Harrison tells his team to go home and have dinner with their kids...then get back to work.

In the next scene, some mainframe techs catch Dorothy programming the IBM. They demand to know what she's doing but are impressed when the computer begins churning out the data Dorothy programmed it to calculate.

Mary arrives home to find Levi and the kids watching news of the KKK firebombing the Freedom Riders' bus and the violence that followed. Mary doesn't want the kids seeing the images, but Levy says that everyone needs to see it.

Commentary: *The Freedom Riders were civil rights activists who journeyed through the southern US on interstate buses to protest segregation. On 14 May 1961, the Freedom Riders were attacked in*

Alabama by a white mob and one of the buses was firebombed. The group disbanded shortly thereafter.

The day of Mary's case arrives. The judge is ready to quickly dismiss her petition to attend the white school where the required engineering classes are being held. However, Mary stands her ground. She reminds the judge that he was the first in his family to serve in the Armed Forces and that Shepard had been the first American in space. She tells him that she plans to be NASA engineer, but needs to take the classes. Mary challenges the judge to be the first to allow a black woman to attend a white school. Impressed by her research on his career, and her passion, as well as the implications for his legacy, the judge permits her to take night classes at the school. Outside, Mary screams with happiness.

Commentary: *The contrast between Mary and Levi is interesting, with her using legal means to get ahead, while he's supports violent action to achieve change.*

At the Space Task Group, Katherine prepares a report on launch and landing projections. She types Stafford's name, hesitates before adding her own. Finally seeking credit for her efforts.

Commentary: *A nice contrast here between Mary's significant victory in court and Katherine's low-key victory in adding her name to the report.*

Later, Katherine catches up to Harrison and Stafford. She asks Harrison if she can work on John Glenn's trajectory for an orbital launch with the Atlas Rocket. Harrison reminds her that the maths for this doesn't exist; it must be invented. Katherine stands her ground and tells him she can do

it. Harrison agrees to let her go ahead. Stafford is angry. Harrison walks away. Stafford tells Katherine that Computers don't write reports and he rips off the cover.

Commentary: John Glenn piloted the 1962 Mercury-Atlas 6 mission in the Friendship 7 capsule. It was the first American orbital spaceflight.

A title card reads: July 21, 1961 - Gus Grissom splashdown

The Liberty Bell 7 capsule bobs in the Atlantic Ocean, as a news reporter tells us that it experienced a malfunction and pilot Gus Grissom is missing.

We cut between Dorothy, Katherine and Mary watching on TV and NASA, where the Space Task Group team is watching, all with bated breath. Grissom emerges from the waves. Harrison is insistent that the capsule is saved, but it's lost during the rescue operation. Grissom is successfully pulled from the water.

Commentary: Part of Project Mercury, Liberty Bell 7 was the nickname of the capsule used in the Mercury-Redstone 4 mission, the second US human spaceflight. Note how in the previous scene Stafford confirms to Harrison Grissom's landing trajectory right before we see the landing go awry.

We move to a Senate hearing, at which Harrison gives evidence. A senator expresses doubt that Harrison can guarantee the safe return of John Glenn from the Mercury-Atlas 6 mission. Harrison says they'll get him home because they have to and that the risk will be worth it to find out what's out there is space that humankind has yet to discover.

At the Space Task Group, the team discusses the Mercury Capsule and how the Atlas Rocket will get it into orbit. The challenge facing the team is how to get it back down. If Glenn is brought down too soon, he'll burn up on re-entry; too late and he'll be pushed out of Earth's gravity.

After the meeting, Katherine asks permission from Stafford to attend Pentagon briefings to keep up with the latest data, changes to which alter the calculations. Stafford refuses and tells her to work with what she has, or he'll find someone else for the assignment.

Katherine works late at the Space Task Group trying to figure out the maths needed to get the capsule back to Earth.

In the next scene, she hands her work to Stafford, who tells her it's already obsolete. She again asks him if she can attend the briefings but is again rebuked. Harrison sees the interaction.

Katherine prepares a second report title page with her name. Again, Stafford tells her to fix it.

On another day, Katherine catches up to Stafford and Harrison, et al, as they head to the Pentagon briefing. She stands her ground about being able to attend. Eventually, Harrison steps in and allows her to join them.

Commentary: *Act Two drag is often a problem with scripts and Hidden Figures is sagging a little in this section. While it's important to show Katherine digging in her heels and demanding respect and the ability to do her job, we get some repetition (with her name on the report) and get a little too technical, with some confusing stuff about capsules, rockets*

and orbits. A bit more context would be useful. We've also lost Dorothy, Col. Johnson and Mary a little during this section of the story.

Harrison introduces Katherine to the room of high-level male NASA and military staff. He hands out reports and tells the room they need to decide on a landing zone for the return of the Friendship 7. Katherine steps in to supply a piece of data that Stafford doesn't have to hand. Her contribution stuns the room into silence. John Glenn lightens the mood with a joke. Harrison then challenges Katherine to do the maths on the board in front of the room. She takes a moment then begins to work it out, narrating as she goes. She calculates the co-ordinates for the landing zone. The whole room is impressed, especially Harrison and Glenn.

Commentary: *A nice connection here, taking us back to when Katherine was a child and was put on the spot to work out the equation in front of the class.*

In the next scene, Harrison tells the lead IBM tech that he needs to make the machine prove its worth. The tech says he needs more manpower. Harrison orders him to get the staff he needs.

Vivian tells Dorothy that she's being assigned to the IBM ahead of Glenn's launch. Dorothy asks about the rest of the team. Vivian tells her that human computers can't calculate the orbital flight in time for the launch. Dorothy asks what will happen after the launch. Vivian says that NASA's dissolving the Computing Groups. Dorothy refuses to take the reassignment unless her team can come along and help to programme the IBM. Both women stand their ground.

In the next scene, we see the resolution as Dorothy leads her team to their new assignment with the IBM. Another landmark victory.

Commentary: *Note the stark imagery once again here, with the all-black West Computing Group enters the all-white IBM room.*

At the Space Task Group, Harrison watches Katherine hard at work. Stafford arrives. Harrison tells him that it's his job to find the true geniuses in the group to pull the whole team up. Stafford leaves and sees Katherine, the last employee there, trying to figure out the maths that has her stumped. Stafford says nothing as he leaves.

Commentary: *Harrison's comments seem to have triggered something in Stafford. He's not ready to fully acknowledge Katherine's equal status, but he can see her superior intellect and her commitment.*

In the next scene, Mary is getting ready to go to her first classes. Levi gives her a box of mechanical pencils and tells her she'll make a fine engineer.

At Hampton High School, Mary walks into a class full of white men. She tells the professor she's enrolled. He tells her the curriculum is not designed for teaching a woman. She replies that it's probably just like teaching a man. Without a 'colored' section, she's free to sit anywhere. So, she proudly takes a seat in the front row.

Overall: In this section, our protagonists have come a long way and continue to break down barriers, including desegregating the bathrooms at NASA.

Mary has successfully taken legal action in order to achieve her engineering ambitions. Dorothy has recognised the future of NASA is computerisation and has taken steps to ensure she and her team can keep their jobs by learning the IBM.

Meanwhile, Katherine has assumed the challenge of figuring out the maths needed to get the Mercury Capsule back to Earth, which comes the main dramatic thrust of Act Three.

*****Act Three*****

Pages 94 to 121:

Katherine, Stafford and Harrison try to figure out the maths that will get the Mercury Capsule back to Earth. Katherine comes up with the idea of using Euler's Method.

Commentary: *Euler's Method is a numerical approach to solving differential equations. However, again, this is about Katherine's mathematical ingenuity rather than the mathematical ins and outs.*

Katherine reads up on Euler's Method and goes back to the chalkboard. She erases everything and starts again. When she's finished, Stafford looks it over and tells her to type it up. She does so, putting Stafford's name on the report.

Later, Dorothy runs into Vivian in the bathroom. It's the first time the women have used the same restroom. Vivian complements Dorothy's ability with the IBM and tells her that some of the other computer team would like to learn. Dorothy pointedly says that training them on the machine would be a supervisor's decision. Vivian then says that she has nothing against African Americans. Dorothy agrees that Vivian believes that to be the case.

In the next scene Katherine is surprised by a fancy family dinner with Col. Johnson that ends with him proposing marriage. Katherine accepts. The launch of the Mercury Capsule is nearing. Harrison calls Katherine into his office and tells her that with the IBM now up and running, the

Space Task Group no longer needs a human computer. He tells her to report back to West Group and the decision is out of his hands.

As Katherine is gathering up her personal belongings, Ruth congratulates her on her engagement and gives her a gift of a pearl necklace. She tells her the present was Harrison's idea. As she speaks, Katherine looks at the Space Task Group team bustling around and doing their job. She is upset that she's no longer a part of it and holds back the tears.

Katherine's wedding day arrives. Mary and Dorothy help her to get ready.

A title card reads: February 20, 1962

It's the day of the John Glenn Mercury launch. A huge crowd has gathered at Cape Canaveral to watch the take-off.

Dorothy, Katherine, Mary and the rest of the West Computing employees are watching.

In the NASA control room, Harrison realises the landing coordinates are different from the ones computed a day before. Stafford tells him the IBM ran the figures. The IBM was wrong, Harrison retorts.

Harrison talks with Glenn at Cape Canaveral. Glenn doesn't want to launch until the figure are right and expresses reluctance to rely on a machine. Glenn tells Harrison to get 'the girl', Katherine, to check them. If she says they're okay, Glenn is happy to launch. Harrison tells Turner to go and find Katherine.

Turner arrives at the West Computing building with the worksheets. He tells Katherine she needs to verify the landing coordinates. Katherine gets to work.

The West Computing team watches the launch prep on TV while Katherine furiously works away on the figures. She suddenly jumps up and runs to the Tracking Control Room. She hands the figures to Turner, who closes the door in her face. She turns to leave. Harrison calls her back and gives her credentials, so she can come into the room. Harrison escorts her in and then calls Cape Canaveral to let Glenn and the crew know that the coordinates are confirmed.

The launch is a success.

Commentary: *With the story drawing to a close, this sequence adds some action and energy to Act Three, with Katherine facing a final test of her maths skills and her abilities now key to the Mercury mission. It also shows us how far she's come in NASA. Her tenacity and intellectual gift being rewarded with a front-row seat with the Space Task Group to watch the launch that she helped to make possible. More importantly, she has Harrison's respect as an integral part of the team.*

At the West Computing group, Vivian hands Dorothy her new assignment. She's being made a supervisor, in charge of a team of 30 working permanently on the IBM. Vivian makes a point of calling her Mrs Vaughan for the first time. Dorothy looks around the old computing room for the last time. Things are moving on. Dorothy turns off the lights.

In the NASA control room, a red light starts blinking. Stafford thinks the heat shield has come loose. He says they need to get Glenn back immediately as the capsule could burn up on re-entry.

Commentary: We get our payoff from the faulty heat shield bolts from the prototype test.

Mary goes to pick up her kids from school. People are gathered around a TV store window as the news broadcasts that Glenn is in trouble due to a heat shield malfunction.

Harrison says the retro package straps might hold the shield in place. Katherine is also convinced it will hold until the pressure from re-entry takes over and holds it in place.

Watching on TV, Mary says they need to override the 05g. At NASA, Zielinski echoes Mary's observation. Harrison tells Glenn not to jettison the retro package, which means overriding the 05g switch and making a manual 05g entry. Glenn acknowledges the command.

Dorothy listens to the news while driving. She sees that people, black and white, have pulled off the road to listen; some are crying, and some are praying.

Commentary: *This sequence of Glenn being in trouble adds a further final act complication and dash of excitement to keep the story's momentum until the end. It also highlights just how much the space race and the fate of the astronauts was embedded in the collective consciousness at that*

time. It was also something that united the country, even in the segregated south.

Back at NASA, Harrison loses contact with Glenn, as the capsule crosses into the communication black-out zone. There is a tense period in which NASA can't communicate with Glenn. Finally, Glenn comes through loud and clear. Katherine's landing co-ordinates prove accurate. Glenn splashes down in the Caribbean, as planned, and is recovered by the Navy, safe and well. Everyone celebrates.

Commentary: *Much of the back-and-forth between Harrison and Glenn is based on the actual communications that took place (<https://www.archives.gov/exhibits/featured-documents/friendship-7-transcript/reentry-transcript.html>).*

We see Mary graduate, with Katherine and Dorothy in attendance.

Title cards tell us that Mary became NASA's first ever female engineer.

Meanwhile, we learn that Dorothy became the first black supervisor at NASA, heading up the Electronic Computing Group before working on a mission to send an unmanned explorer to Mars.

We see Dorothy revelling in her role, after Vivian has introduced Mrs. Vaughan to her new team.

Harrison congratulates Katherine, his gruff exterior giving way to the childlike delight of exploring space.

We learn that Katherine permanently joined the Space Task Group and played a key role in Apollo 11, which took Neil Armstrong, Buzz Aldrin and Michael Collins to the moon. She also helped to rescue the Apollo 13 astronauts. She received the Presidential Medal of Freedom in 2015.

In the final scene, we see Katherine finish up a report and type her name on the cover alongside Stafford's. He comes over, gives her a cup of coffee, and picks up the report; this time, not saying a word. Katherine sips her coffee and gets back to work.

Overall: The three women's stories are framed within the space race and NASA's efforts to beat Russia. The historical events depicted work to set deadlines and ensure the women's stories intersect and feed into NASA's goal of getting a man into space and into orbit ahead of the Russians. NASA's victories and defeats mirror those of the women.

Mary gets the opportunity to become an engineer; Katherine gets accepted by the Space Task Group; and Dorothy gets to grips with the IBM, enabling her team to keep their jobs.

If anything suffers, it's the women's personal lives. Katherine's romance with and marriage to Col. Johnson are a nice subplot, if a little thin. Potential conflict over her neglecting her kids in order to do her high-pressure job for the Space Task Group is never really explored or developed; neither are her or her kids' feelings about remarrying after the death of her first husband.

Col. Johnson is accepted into the family without question, and is presented as a knight in shining armour figure.

Likewise, we know little about Dorothy's homelife. We learn most about Mary, with the interesting dynamic between her and Levi, who's committed to the civil rights cause, even if that means violence. We get to see some conflict between them before he offers her his support for her engineering ambitions.

While *Hidden Figures* is a terrific dramatization of how these real-life women broke down barriers, one further criticism is that maybe they're presented as a little too good.

They move within this high-powered, segregated world, constantly proving the single-dimension white folk (with the exception of Harrison) wrong, exhibiting their unflagging drive and intellect, never once seeming to doubt themselves, overcoming any barriers in their way, and getting the (sometimes grudging) respect of those around them.

The women are each ground-breaking and bring about substantive change within NASA and beyond, from desegregated bathrooms and classrooms to spearheading the move to IBM computers and ensuring John Glenn's first orbital flight was successful. Throughout, it's truly inspirational and heart-warming. However, showing a little weakness here and there could have helped to deliver a more rounded narrative and show us fully developed protagonists.

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