

or see and each place has its own recommended places. Each place is very different with the ghosts, ghouls, and haunts from both the paranormal realm and Horror Hideaway, compared to the light-hearted and adventurous nature of Love field valley and fantasy fortress. Despite all the differences, they all come together to create a land that has its own story. So come on down grab a book from one of our many book stores and join us at The Four Realms.

Fortress Fantasy

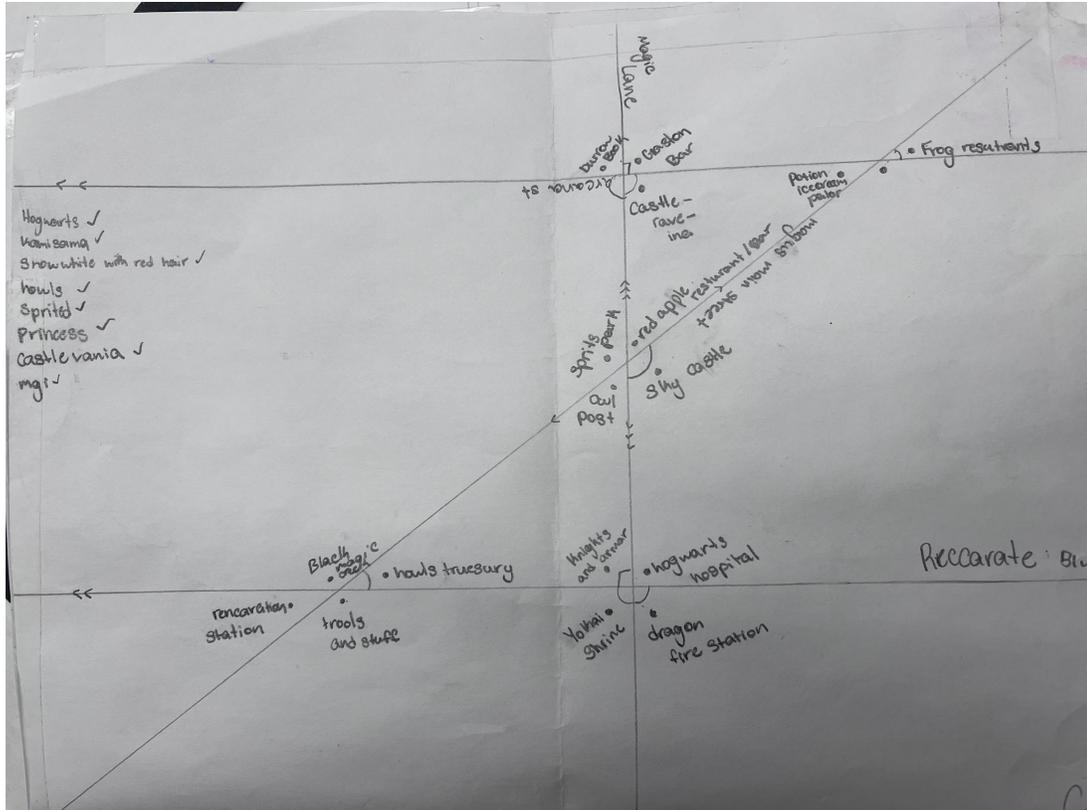
Designer: Gabrielle

Welcome to the Four Realms of Genres. Here you'll start at Fortress Fantasy.

Here At Fortress Fantasy, we try to make all of your fantasy dreams come true. While also fulfilling some fantasy nightmares. Nothing here is as it seems as one of the quadrants that houses any and all thing fantasy.

Everything here is mostly outdoorsy with a lot of our places being wood-based but having a modern feel. First coming into Fantasy Fortress you'll come in from the reincarnation station that's always packed with people from all races. Wanting some ice cream on a hot day go to potions ice cream parlor.

Map and Instructions of Quadrant:



Places within Fortress Fantasy:

- Reincarnation station
- Black magic grove
- Howl's treasury
- Trolls and stuff
- Castle - rave - vaina
- Sky castle
- Owls post
- Spirit park
- Knights and shining armor
- Dragon fire station
- Hogwarts hospital
- Red apple bar/restaurant
- Burro Book
- Foragers

- Potions Inc.
- Gaston bar

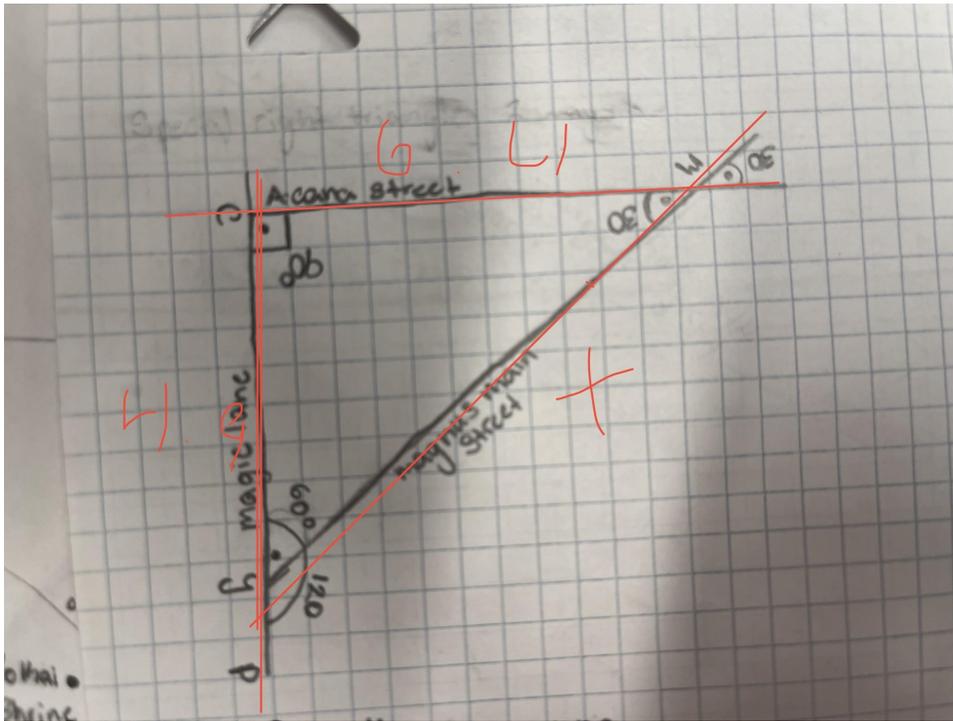
Directions around Fortress Fantasy:

- Fortress Fantasy stands at the northern east side of The Four Realm of Genres.
- Our 2 main streets are parallel and are called reincarnate Blvd and Arcana st.
- Magnus main street creates a transversal with both Arcana st. and Reincarnate blvd.
- Foragers is an alternate exterior with reincarnation station
- Foragers and Howls treasury create Corresponding angles
- Trolls and stuff is Adjacent to howls treasury
- Magic lane creates a Perpendicular line with reincarnate blvd
- Black magic grove is sitting on a Obtuse angle
- Owls post, spirit park, sky castle, and red apple bar/ restaurant are sitting on a Vertical created by magic lane and magnus main street
- acute angle
- Hogwarts hospital, knight and shining armor, and dragon fire station are all sitting on right angles.
- Potions inc. is Alternate interior with howls treasury
- Burro books and gaston bar are a linear pair
- Castle - rave - vaina creates a vertical angle with gaston bar

Math Behind The Scenes

Here is some of the math behind the process within making the town, but specifically Fortress Fantasy.

Triangle and Triangle Theorems:

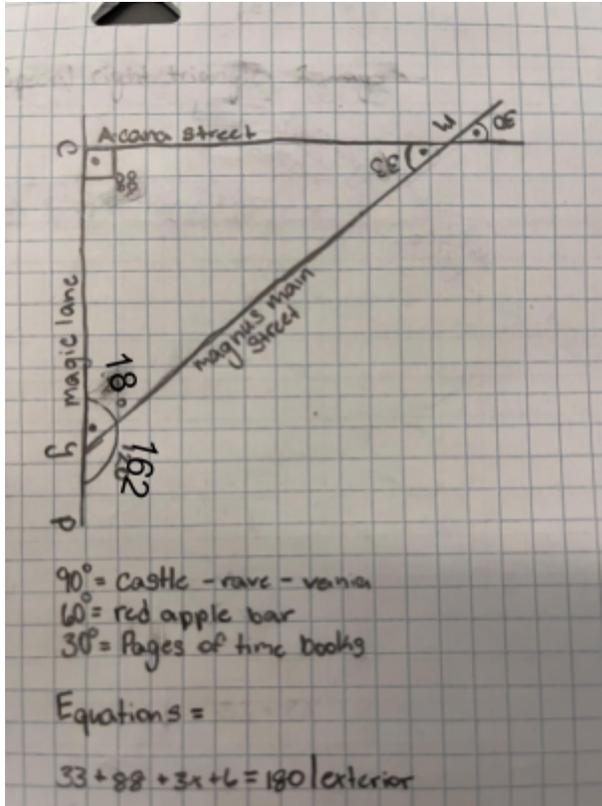


| Statements | Explanation |
|-----------------------------|------------------------|
| $a^2 = 4.9 \quad b^2 = 6.4$ | Given |
| $a^2 + b^2 = c^2$ | Pythagorean theorem' |
| $(4.9)^2 + (6.4)^2 = c^2$ | Substitution |
| $24.01 + 40.96 = c^2$ | Substitution |
| $64.97 = c^2$ | Combine like terms |
| $\sqrt{64.97} = c$ | Simplified square root |

We first start off with triangles and triangle theorems. To start we have to look at our given, $a^2 = 4.9 \quad b^2 = 6.4$. This is the start of the problem, the

thing we have to solve and prove. From here we have to remember the Pythagorean theorem, $a^2 + b^2 = c^2$. This problem means that side A + side B = side C. Where A and B are the 2 sides that are mostly the same size, and side C is the longest side. From here we substitute $a^2 + b^2$ for $a^2 = 4.9$ $b^2 = 6.4$ because the given states which letter they correspond with. So when you plug in the number to replace the letters you have to remember which number corresponds with which letter. After plugging in the numbers the equation becomes $(4.9)^2 + (6.4)^2 = c^2$. The next part to solve this is we have to remember pemdas and solve the problem in order so we square the 4.9 and the 6.4 to create a new problem $24.01 + 40.96 = c^2$. Now the reason we didn't square the C is because there is no number to square it with. This means that we can just leave that number blank until we find something else to replace it with. Next comes combining like terms. Here we just add any numbers that are the same so for example $3y + 2y$ or $5.5x + 6.6x$. Though for this problem it's the 24.01 and the 40.96. From here the problem is now $64.97 = c^2$. to solve this problem now we have to square the 64.97 to find what c^2 is. To do this we use square root in order to bring back the number that originally created 64.97. The final answer should be $\sqrt{64.97} = C$. The reason we didn't finish the square root is because the number that created 64.97 is not a whole number. Its a number that has a decimal that goes on for a long time till it reaches its ending number; so because of that we can just leave the problem as $\sqrt{64.97} = C$. With that answer to test if our given is correct as well have to plug in that number for C and it should be the closest equivalent answer you can get for this problem.

Exterior Angle theorem:



This is a triangle formed by one of our main streets, Magnus main street. Here the problem created is an exterior angle theorem. Exterior Angle Theorem is where you try to find an angle measurement outside of the triangle by using the interior angles within the triangle. The original problem given is $33 + 88 + 3x + 6 = 180$. For this problem all we are doing is trying to find X. Let's first start off by combining like terms. This means 33, 88, and 6. This combined with $3x$ and the whole value needing to add up to 180, the problem now becomes $126 + 3x = 180$. From here you subtract the 126 from both itself and 180. With the 126 subtracting from itself it cancels out as it equals 0, when it subtracts from 180 it becomes 54. So when we restructure the equation it becomes $3x = 54$. Finally you need to x by itself. to do this you solve this equation $3x = 54$ by divide 3 from both $3x$ and 54 making $x = 18$.

Exterior angle theorem :

| Statements | Explanation |
|------------|-------------|
|------------|-------------|

| | |
|------------------|---------------------|
| $33+88+3x+6=180$ | Given |
| $126+3x=180$ | Combine like terms |
| $3x = 54$ | Subtract like terms |
| $X = 18$ | Divide |
| | |

With the problem being solved now, we have to find the outside angle. To do this we take the fact that a line = 180 degrees. Thanks to this all we have to do is take that missing angle that we found which is 18 and subtract it from 180. After subtracting your final number should be 162.

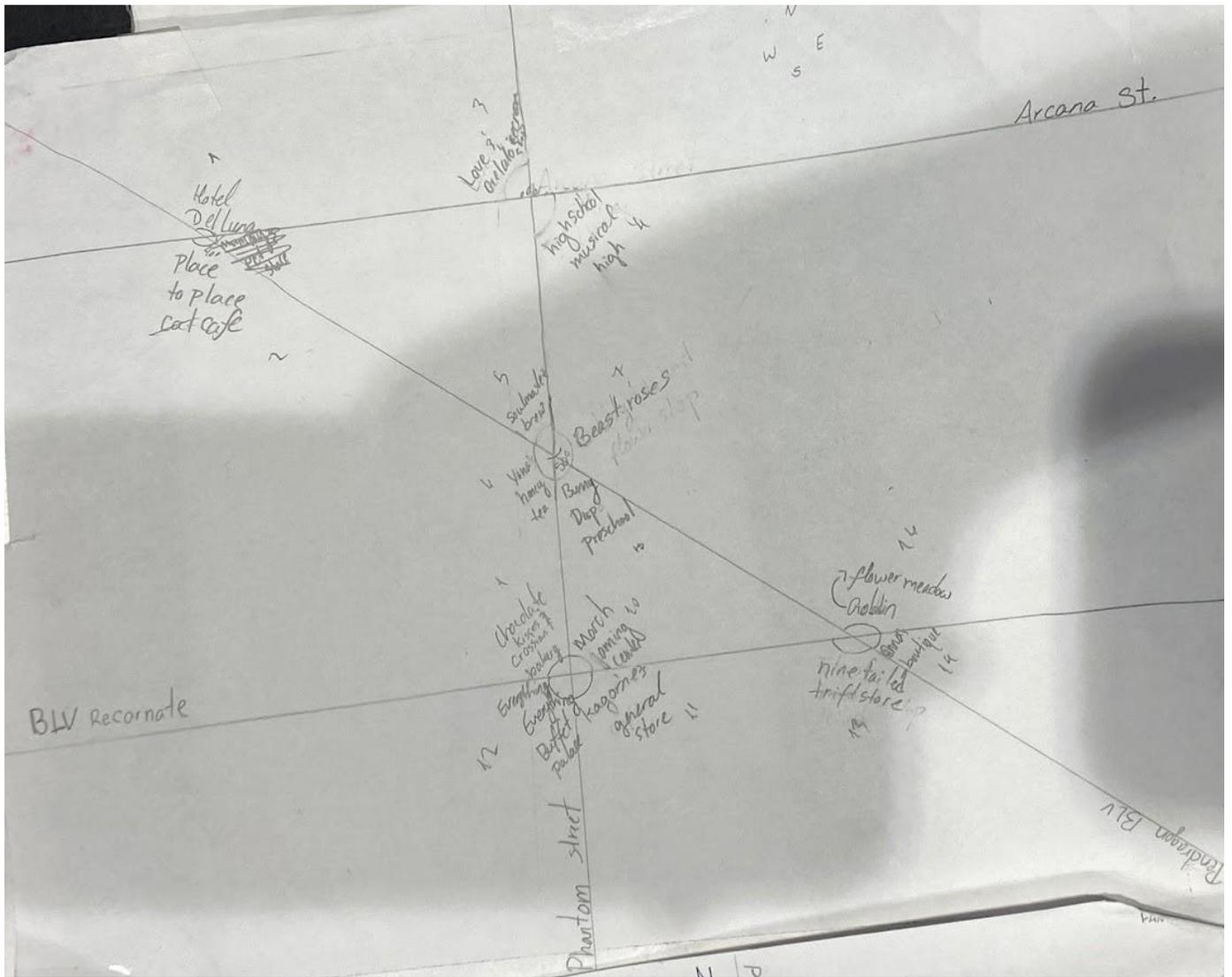
I'm grateful that you decided to come to Fortress Fantasy. As you continue the rest of the tour around the four realms your next stop should be Forever Stories created by Zarin.

Designer: Zarin S

Forever Stories

Welcome to The Four Realms, and this is my section of Forever Stories, where quirky romance, cringy romance, and oh-so-sweet romance blossoms. Here you will see many amazing and cheesy places like Hotel Del Luna, High School Musical High, Beast Roses, and Goblin's Flower Meadow. Stop by and feel the sweetness of Love & Gelato ice cream shop. They make mouth-watering ice cream and gelato that sends you straight to Florence, Italy. Remember High School Musical High, our dream high, Music and so much more cringyness. Grab a rose from Beast Rose and I'm sure you will find your beauty and some extra blush-worthy cheesiness— don't forget about Kagome's general store. Get everything you need, from lunch boxes to chewing gums and chocolates to comic books. Romance and a whirlwind of Emotions and smiles await.

Map and Instructions of Quadrant:

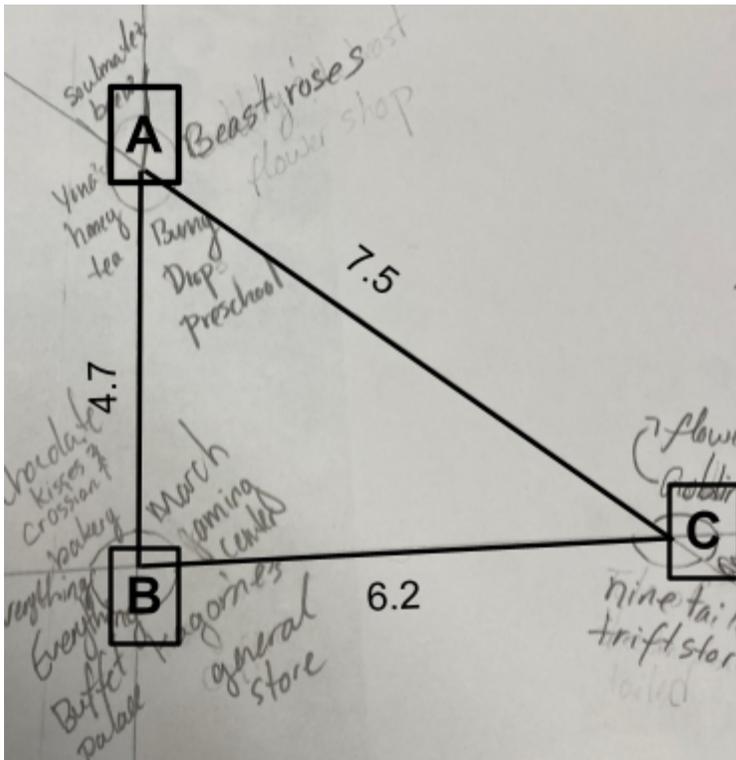


1. Hotel Del Luna
2. Love & Gelato Ice cream shop
3. Highschool Musical High
4. Soulmate's Brew
5. Chocolate Kisses & Croissant Bakery
6. Yona's Honey Tea
7. Beast Rosees
8. Kagome General Store
9. Goblin Flower Meadow
10. Nine-tailed triftstore
11. Anna's Boutique
12. Bunny Preschool
13. Everything Everything Buffet Place
14. March Gaming Center
15. Place to Place Cafe

- 1) Arcana Street on North is parallel to Reincarnate blvd on South
- 2) Arcana St is perpendicular to Phantom St which cuts toward the west.
- 3) There is a fourth street, Pendragon, that's transversal to the south of Reincarnate blvd heading up northwest, intersecting Arcana St, creating an obtuse angle called Hotel Del Luna
- 4) Hotel Del Luna is a vertical angle to a cafe called Place to Place Cafe
- 5) Place to Place Cafe is consecutive to Yona's Honey Tea, which is also an obtuse vertical angle called Beast Rose
- 6) Two Acute Vertical angles in Phantom St and Pendragon blvd call Bunny Preschool and Soulmate's brew
- 7) Southwest of Phantom St is March gaming center and it's an alternate interior to Bunny Preschool
- 8) To the corner of the South, Pendragon blvd is an acute angle, Anna's Boutique which is a linear pair to Goblin Flower Meadow on top and an adjacent pair to Nine-tailed Thrift Store on the bottom of Reincarnate blvd
- 9) Flower Goblin Meadow is an alternate exterior angle to Kagome General Store
- 10) On Phantom St. Love & Gelato ice cream and Chocolate Kisses & Croissant Bakery are corresponding angles

11) On the intersection of the south side of Arcana St and the east side of Phantom is an obtuse angle called High School Musical High

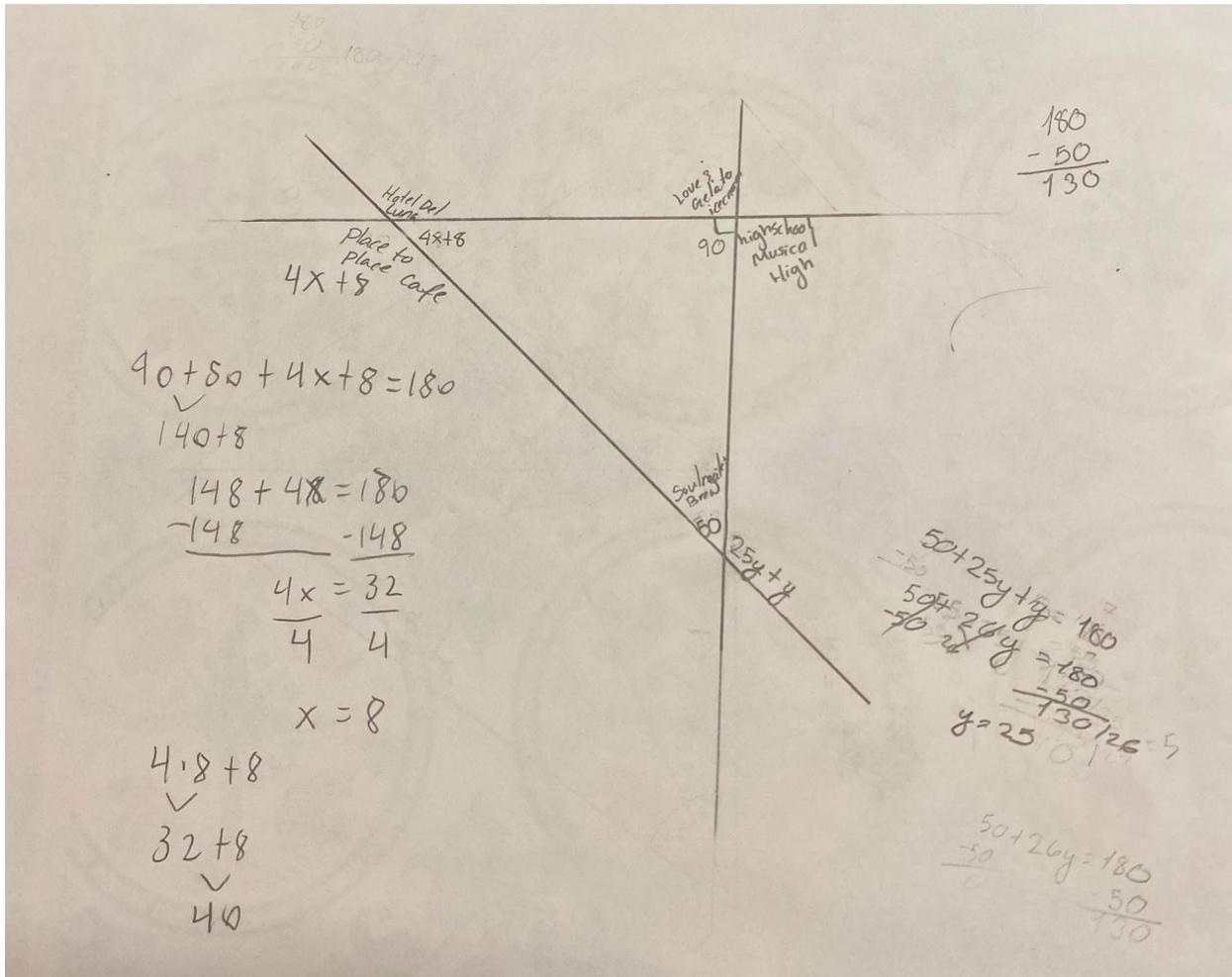
Triangle and Triangle Theorems:



| Statements | Explanation |
|---------------------------------|---------------------|
| $a^2 = 4.7^2 \quad b^2 = 6.1^2$ | Given |
| $a^2 + b^2 = c^2$ | Pythagorean theorem |
| $4.7^2 + 6.1^2 = c^2$ | Substitution |
| $22.1 + 37.2 = c^2$ | Simplify |

| | |
|---------------------|----------------------|
| $59.3 = c^2$ | Combine like terms |
| $\sqrt{59.3} = 7.7$ | Simplify square root |

*Original Answer when measured was 7.5, due to rounding became 7.7009



Solve for x

$$90 + 50 + 4x + 8 = 180$$

Solve for y

$$50 + 25y + y = 180y$$

| Statements | Explanation |
|--------------------------|-------------|
| $90 + 50 + 4x + 8 = 180$ | Given |

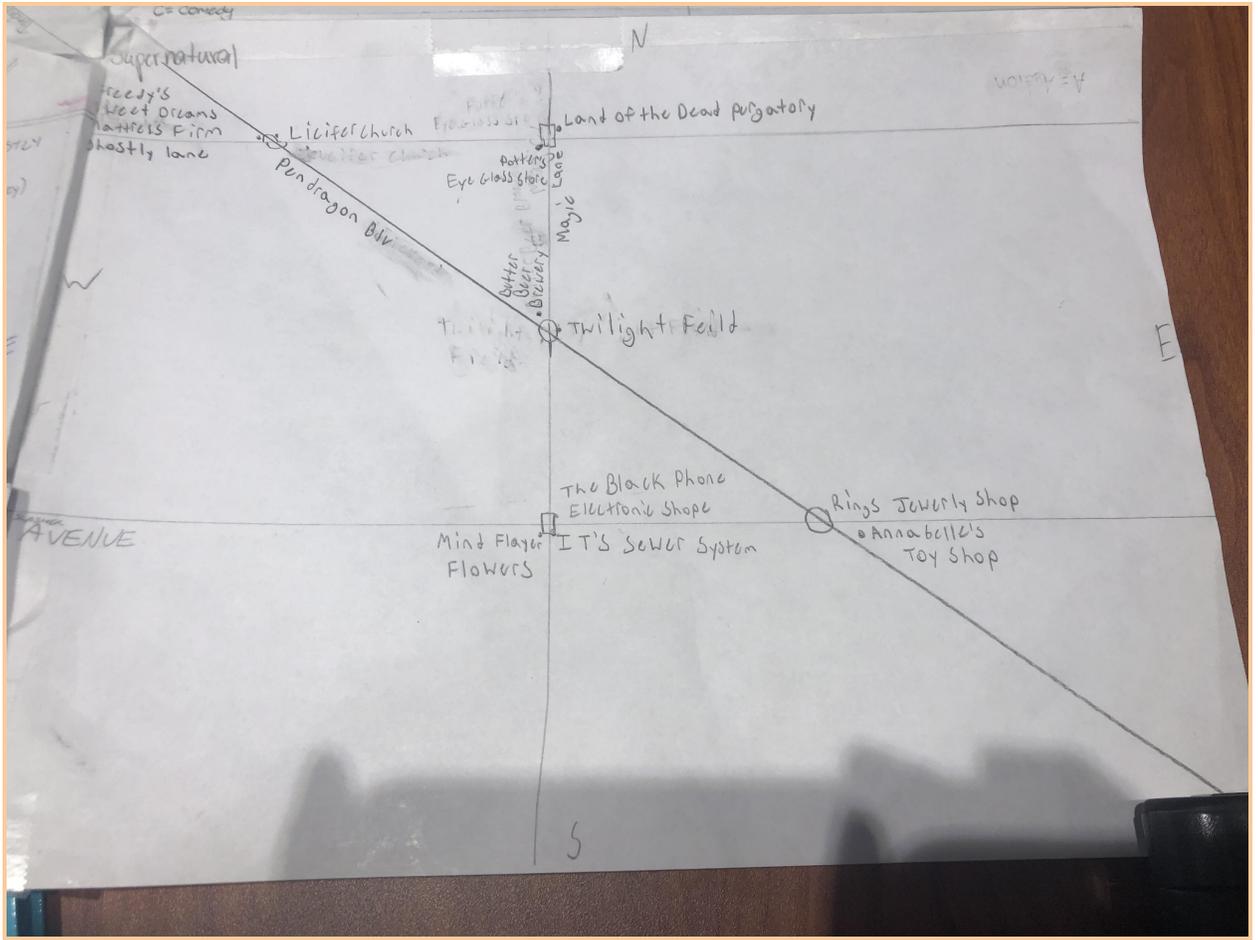
| | |
|------------------|----------------------------------|
| $148 + 4x = 180$ | Combining like terms |
| $4x = 32$ | Subtraction Property of Equation |
| $x = 8$ | Division property of Equation |

Thank you for visiting Forever Stories. I hope you have enjoyed my stop and reminisced the beautiful stories of love. Your next destination should be Paranormal Realm by Penelope Fratanduono.

Designer: Penelope Fratanduono

Welcome to The Four Realms! This is the place where you can turn all of your book/movie dreams into reality. The area you are coming into is Paranormal Realm. Paranormal Realm is a place you can come to see some unnatural things. One of the most popular places in the area is Land Of The Dead Purgatory. People go to see ghost of family and friends but sometimes they bump into other kinds of ghost. Another really fun place to go to is Twilight Field. There is a family of vampires that play there and sometimes they play against werewolves. The games are always when it is about to rain though. The best place to get a bite and drink with friends is Butter Beer Brewery. It makes some of the best beer in the whole metropolis and has good snacks like pretzel bites, tater tots, and their chicken wings with homemade sauces. There is many other places but these are the most recommended to visit when you come here. I hope you have a great time here!

Map and Instructions of Quadrant:



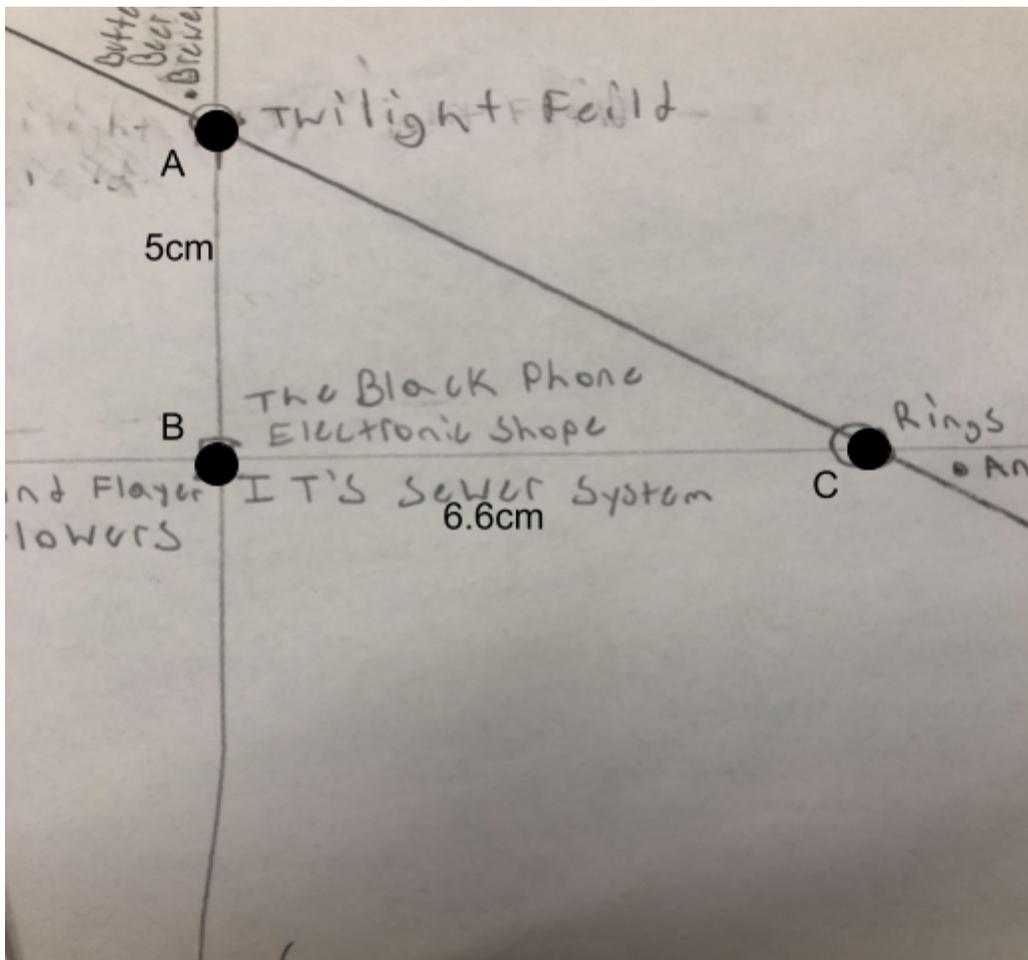
- 1.) Freddy's Sweet Dreams Mattress Firm
- 2.) Lucifer Church
- 3.) Annabelle's Toy Shop
- 4.) IT's Sewer System
- 5.) Mind Flayer Flower
- 6.) The Black Phone Electronic
- 7.) Land Of The Dead Purgatory
- 8.) Potter's Eye Glass Store
- 9.) Twilight Field
- 10.) Butter Beer Brewery
- 11.) Rings Jewelry

- Two of the roads, Ghostly Lane and Slasher Avenue, are parallel and go from West to East.
- The two streets are perpendicular to Magic Lane and Magic Lane cuts through them close to the middle. Magic Lane is also transversal.
- Pendragon Boulevard, going from the Northwest corner to the Southeast corner, is intersecting Ghostly Lane, Slasher Avenue, and Magic Lane. It also creates obtuse and acute angles with all of the roads.
- Where Ghostly Lane and Pendragon Boulevard intersect it creates a linear pair with Freddy's Sweet Dreams Mattress Firm(1) and Lucifer Church(2) on the north side of Ghostly Lane.
- On Pendragon Boulevard Freddy's Sweet Dreams Mattress Firm and Annabelle's Toy Shop(3) are alternate exterior angles.
- On Slasher ave Annabelle's Toy Shop is corresponding with IT's Sewer System(4).
- IT's Sewer System and Mind Flayer Flower(5) create an adjacent angle on Slasher Avenue.
- Mind Flayer Flowers and The Black Phone Electronic(6) create a vertical angle.
- On Ghostly Lane, Lucifer Church creates a consecutive angle with the Land Of The Dead Purgatory(7).
- In the right triangle created by Ghostly Lane, Magic Lane, and Pendragon Boulevard, Potter's Eye Glass Store(8) is at the right angle
- Potter's Eye Glass Store and Twilight Field(9) are alternate interior angles on Magic Lane.

- Lucifer Church is corresponding with Butter Beer Brewery(10) on Pendragon Boulevard.
- Annabelle's Toy Shop and Rings Jewelry(11) make a linear pair on Pendragon Boulevard.

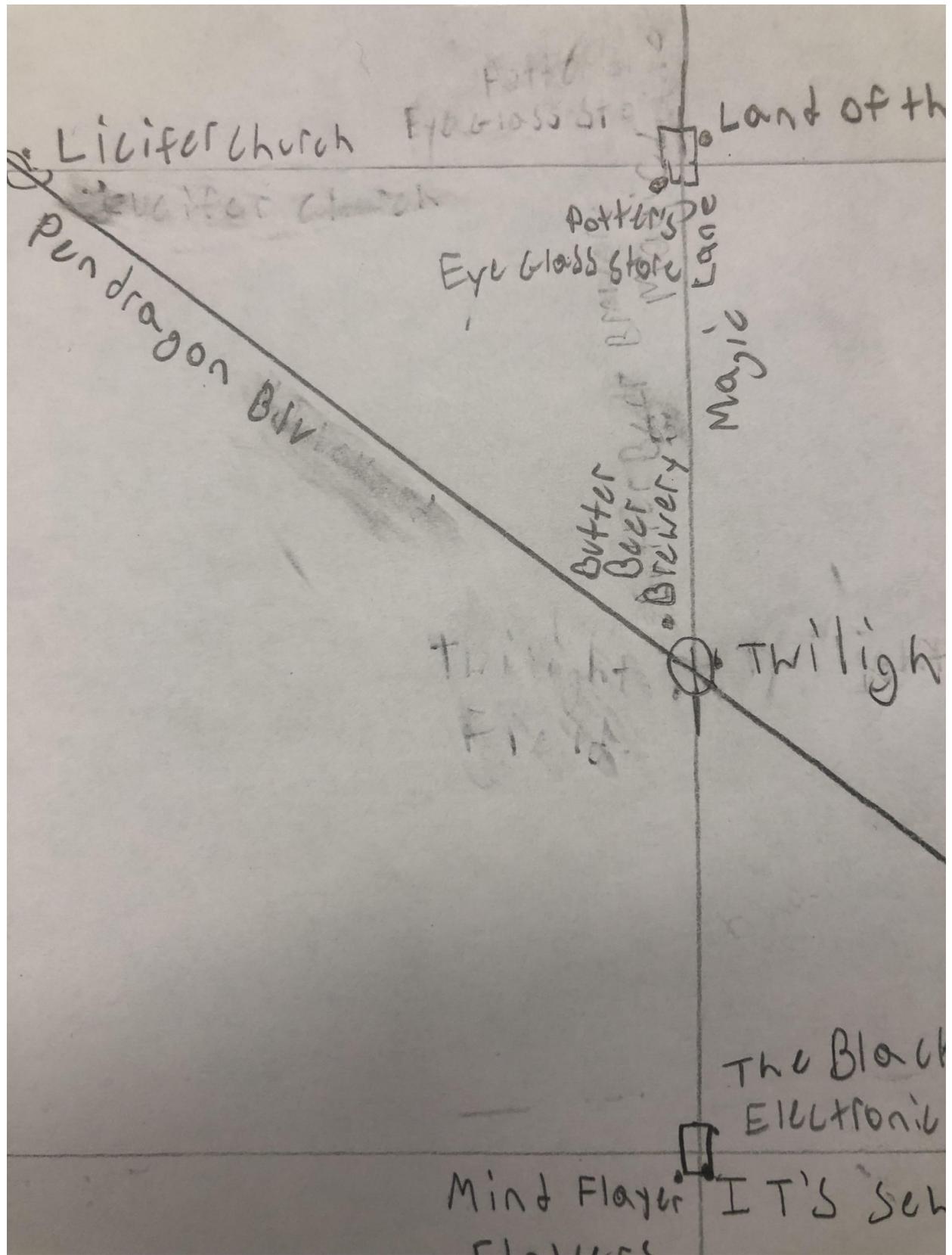
Triangle and Triangle Theorems:

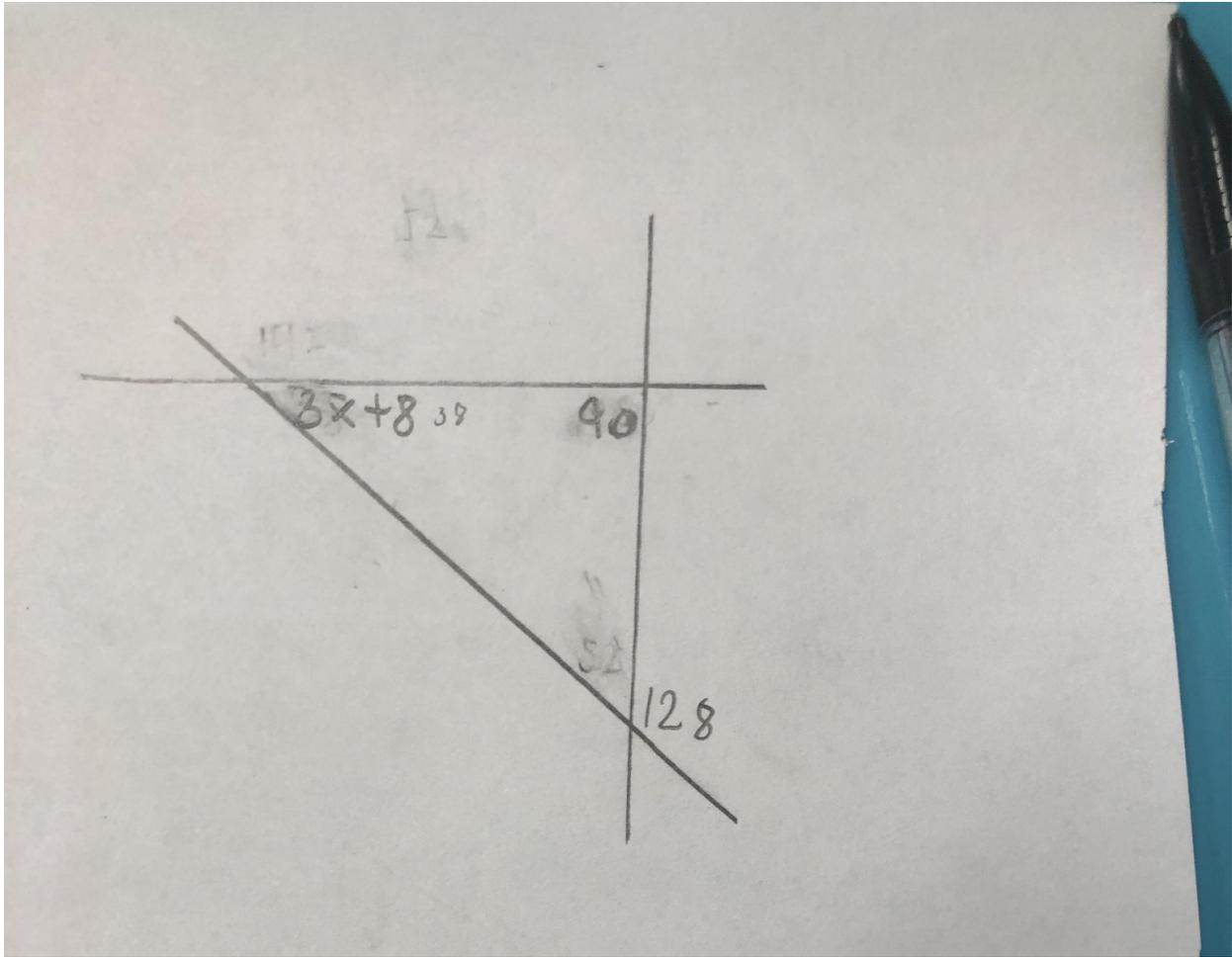
In this section, I will show you how well I know triangle theorems.



| Statements | Explanations |
|--------------------|--------------|
| $AB = 5, BC = 6.6$ | Given |

| | |
|----------------------------|---------------------|
| $a^2 + b^2 = c^2$ | Pythagorean Theorem |
| $(AB)^2 + (BC)^2 = (CA)^2$ | substitution |
| $(5)^2 + (6.6)^2 = (CA)^2$ | substitution |
| $25 + 43.56 = (CA)^2$ | simplify |
| $68.56 = (CA)^2$ | Combine like terms |
| $8.3 = CA$ | Square root |





Find x

$$180 - 128 = 52$$

$$90 + 52 + 3x + 8 = 180$$

$$150 + 3x = 180$$

$$3x = 30$$

$$3x/3 = 30/3$$

$$x = 10$$

This is the end of my section. The next one is made by the designer Clancy. He made it all horror theme.

Designer: Clancy Zhang

Welcome one and all to the best realm in the Four Realms of Genres. We are all **so** delighted that you could visit. My positively sickening realm is called **Horror Hideaway**. Horror Hideaway is known to have the hottest recorded temperatures in all of Genre land! So come on down to the **Lemonic Demonade Stand** to treat yourself to watered-down, room-temperature lemonade. Though it may not be cold, the microscopic worms in the drink will surely leave a chill going down your spine. Truly nightmare fuel.

If heat isn't your thing, come on up to **Ghastly Graveyard**. Horror Hideaway *is* known to be oppressive in its heat, but Ghastly Graveyard throws those accusations right out the window. (Fun fact, over 40% of the ghosts and ghouls that reside in Ghastly Graveyard died from being mutilation after being tossed out of windows!) Ghastly Graveyard is one of the chilliest places in the four realms. It has to stay that way so the corpses don't rot more than they should. That way, we don't get many maggots in the graveyard. Don't stay there too long though! The second you step foot in the necropolis, your tomb is already being dug.

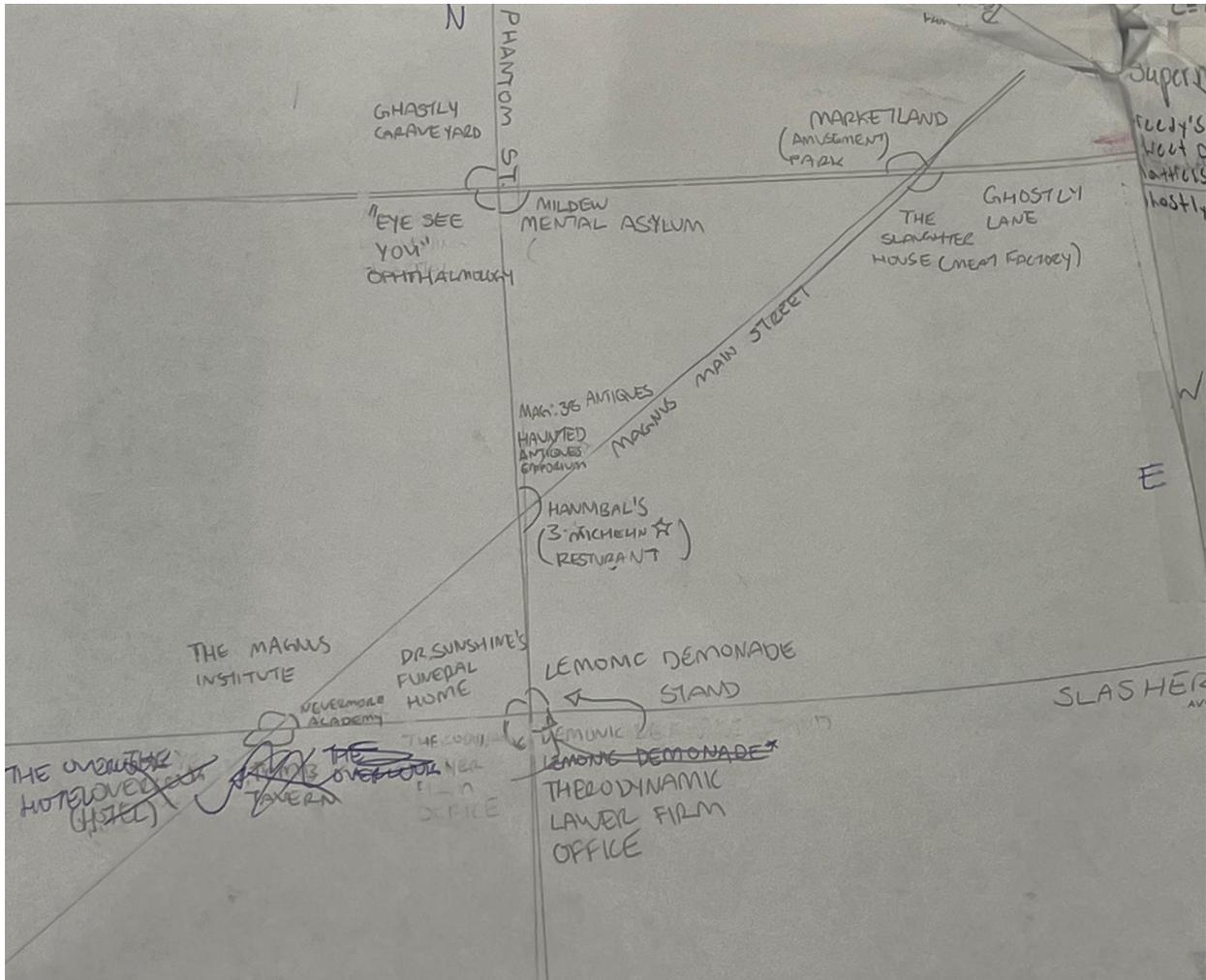
If death isn't your thing either, (Wow, you are REALLY picky.) come to the funniest place in all four realms, Marketland (Amusement Park)! Marketland is the most popular amusement park ever! Lines to Marketland stretch over 4 miles! Now that's a lot of centimeters. (You might be thinking, "Wow. That's a long line, I don't want to go there anymore." But wait! We've got the solution for you! Simply ask for a Medium Root Beer,

our esteemed workers will know the code.) We've got absolutely **anything** anyone could possibly want here! We've got vendors who sell whatever is in demand (fifteen years ago, though), urine-stained Marketland merch (it comes urine-stained, and it stays urine-stained), and most importantly, a whole raw fish. We've also got rides like no other! Our most popular ride is the Eye-Spitting ride. You strap yourself onto a seat and your eyes get spat on. Wonderful stuff, try it yourself.

If absolutely none of these amazing options are to your style, please, feel free to visit the "Eye See You" Ophthalmology ophthalmologist to get your eyes checked- or better yet, check yourself into Mildew Mental Asylum. For the insane. Which you obviously are if you don't like these attractions. (In fact, I hope you get thrown out of a window in the asylum if you don't enjoy any of our attractions. Mildew Mental Asylum is *the place* to go to get chucked out of windows after all.)

In conclusion, Horror Hideaway is to be visited. In fact, I'm buying your ticket to come here right now. Right this moment. See you soon. :)

Map and Instructions of Quadrant:



- Marketland (Amusement Park)
- The SlaughterHouse (Meat Factory)
- Ghastly Graveyard
- "Eye See You" Ophthalmology
- Mildew Mental Asylum
- Hannibal's (3 Michelin Star) Restaurant
- MAG: 38 Antiques
- Dr. Sunshine's Funeral Home
- Lemonic Demonade Stand
- Thermodynamic Lawyer Firm Office
- Nevermore Academy
- The Magnus Institute
- The Overlook Hotel

Two main roads going west to east are parallel to each other. The road to the north is Ghostly Lane, and the one to the south is Slasher Avenue.

- There is another road that is a transversal to Ghostly Lane and Slasher Avenue going southwest to northeast. It is Magnus Main Street.
- There is a fourth road that is perpendicular to Ghostly Lane. It also intersects Slasher Avenue, which is called Phantom Street.
- The funniest place in town, Marketland (Amusement Park) forms a vertical angle with The Slaughter House (Meat Factory). Marketland (Amusement Park) and The Slaughter House (Meat Factory) are both on Ghostly Lane. Magnus Main Street cuts through the two plots. They both face the northeast direction.
- To the west of Marketland (Amusement Park) lies Ghastly Graveyard. Ghastly Graveyard is on Ghostly Lane and Phantom Street. Ghastly Graveyard lies on a right-angle corner. It is on the west side of Phantom Street.
- Directly to the south of Ghastly Graveyard is “Eye See You” Ophthalmology. True to its name, it looks for you wherever you go. Its “eye” contact never seems to break or waver. “Eye See You” Ophthalmology forms a linear pair with Mildew Mental Asylum.
- Mildew Mental Asylum corresponds to Hannibal’s (3 Michelin Star) Restaurant.
- Hannibal’s (3 Michelin Star) Restaurant forms a linear pair with MAG: 38 Antiques. MAG: 38 Antiques and Hannibal’s (3 Michelin Star) Restaurant also have an adjacent angle relationship. MAG: 38 is on Phantom and Magnus Main Street.
- Dr. Sunshine’s Funeral Home is on a right angle on Slasher Avenue and Phantom Street.
- Across the street east of Dr. Sunshine’s Funeral Home is Lemonic Demonade Stand. A perfect place to go to quench one’s (blood) thirst. Hannibal’s (3 Michelin Star) Restaurant forms a consecutive angle with Lemonic Demonade stand.
- Ghastly Graveyard forms an alternative exterior angle relationship with Thermodynamic Lawyer Firm Office. Thermodynamic Lawyer Firm Office is on Slasher Avenue, under Lemonic Demonade Stand.
- “Eye See You” Ophthalmology forms an alternate interior relationship with Nevermore Academy. Nevermore Academy is on Slasher Avenue and Magnus Main Street, west of Dr. Sunshine’s Funeral Home.
- The Magnus Institute forms an obtuse angle. You may see sets of eyes looking at you. Whatever you do, do NOT look back. The Magnus Institute is on Magnus Main Street and Slasher Avenue. The building lies west of Nevermore Academy.

- The Overlook Hotel forms a vertical angle with Nevermore Academy. The Overlook Hotel is also on an acute angle to the south of The Magnus Institute. It is on Slasher Avenue and Magnus Main Street.

Triangle and Triangle Theorems:

Now that you have seen the map, let us delve deeper into what makes Horror Hideaway. (Minus all the fun stuff, no offense.)

These are the Triangle and Triangle Theorems. They demonstrate our knowledge of triangles... and triangle theorems. These triangles show the inner corner of Horror Hideaway. Please enjoy.

| STATEMENTS | EXPLANATIONS |
|------------------------------|---------------------|
| CB=4.6 AB=3.7 | GIVEN |
| $a^2 + b^2 = c^2$ | PYTHAGOREAN THEOREM |
| $(CB)^2 + (AB)^2 = (CA)^2$ | SUBSTITUTION |
| $(4.6)^2 + (3.7)^2 = (CA)^2$ | SUBSTITUTION |
| $21.16 + 13.65 = (CA)^2$ | SIMPLIFY |
| $34.85 = (CA)^2$ | COMBINE LIKE TERMS |
| $5.9 = CA$ | SQUARE ROOT |

$3.7^2 + 4.6^2 = 34.95$
 $13.65 + 21.16 = 34.95$
 $\sqrt{34.95} = 5.9$
 $x = 5.9$

$$CB = 4.6, AB = 3.7, CA = ?$$

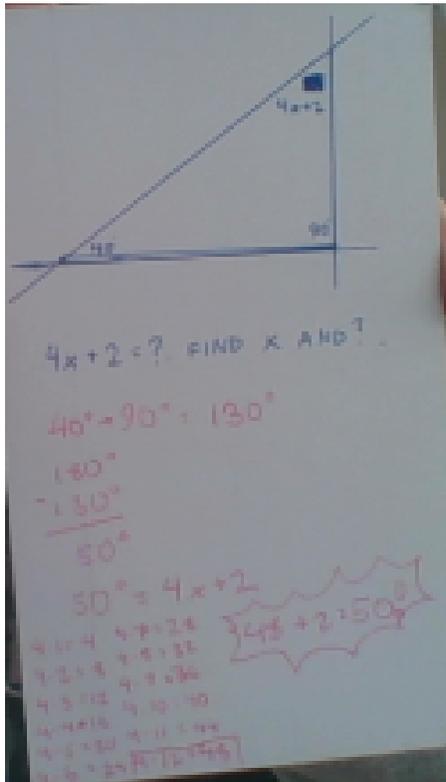
$$(CB)^2 + (AB)^2 = (CA)^2$$

$$(4.6)^2 + (3.7)^2 = (CA)^2$$

$$21.16 + 13.65 = (CA)^2$$

$$(CA)^2 = 34.85$$

$$\sqrt{34.85} = 5.9$$



$$4x + 2 = ?$$

$$40 + 90 = 130$$

$$180 - 130 = 50$$

$$4 * 12 = 48$$

$$48 + 2 = 50$$

$$X = 12, ? = 50$$

If you've gotten this far, it means that you've seen all four realms of the Four Realms of Genres. I commend you for that, so congratulations! (Congratulations for reading

through my introduction too, if you did. If you didn't, I take my congratulations back.) Thank you so much for taking a look at our four realms. I hope you thoroughly enjoyed all of our sections, we curated them just for you. (Yes, you.) Unfortunately, that means our story here is over. We wish you the best of luck traversing through new maps and really all the other map's descriptions. Goodbye Reader.

Sincerely, the Mayor of **Horror Hideaway** (and the other group members.)

P.S. The other group members probably think this too. I wouldn't know. I am simply just a guy.

Conclusion:

We have learned many new skills as a group. We had many opportunities to share feedback and collaborate with one another. We started off a little rocky as we couldn't decide on our theme, but through the Power of Friendship, (lol) we got where we needed to go. We helped each other with our tasks whenever a group member requested help. We applied our newly learned math skills (in this quarter's geometry lessons) to our Triangle and Angle Theorems. We were all able to work together to make our map and finish it in time. All in all, collaboration truly was the key to making this project.

As a group, we were all able to do work well in our sections and together on the map. In this document, we were able to help each other by giving recommendations and other feedback on what should be put in our realms. On the map, we were able to take responsibility for our realms. We used our lunchtimes to go to Ms. Gasser's room to finish our corners.