# GRADE LEVEL PACKET:

# 8th

# Week of 4-27

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4-27-2020

Dear Families,

Because this crisis is affecting so many people in so many ways, presenting a number of serious challenges to many families, and because school is closed and the support and structure of regular school is now very limited, distance learning, while important, should not supersede the needs and well-being of your family and children.

Unless it's a structure that works for you, don't feel like you have to rebuild the same 8-3:30 school structure at home. Every kid and every family has a different routine and schedule. For example, if your child does their best work at 4pm, and that works for your family, go with it! Create a schedule that works for the family, and is built realistically around your family's routines, traditions, values and needs.

Don't feel like you have to be a teacher's assistant. If it works for you to answer your student's questions and guide them through their work, that's ok. But don't feel like you have to. Help your student establish and maintain communication with their teacher.

Don't worry about grades. This is crisis education, and it is impossible to establish a fair grading system when teachers can't be present, and students are at home dealing with the challenges related to this crisis. The priority is on your child's well-being, and then on learning, and that is the focus of our staff. Grades are not.

Do what you can when you can to the level you can. For example, if you can't turn in your child's work during the set hours on Monday, get them in when you can. Packets at the middle school can be picked up Monday thru Wednesday and dropped off any day of the week.

Please keep in contact with us. Our staff is available all day M-F and are ready and happy to listen and help. Teachers want to be called and they want to help, so please don't hesitate to contact them.

Stay well
Olivia Johnson
FRMS Principal
541-935-8230

On the back of this letter is important information about a change in our distance learning program at FRMS. Please read the information carefully and call the school if you have questions.

**Beginning 4/27, FRMS will add instructional videos for language arts and math to our distance learning program.**

- Videos will be short (approximately 15 minutes) and posted on Mondays. Teachers will be walking students through the instruction in either language arts or math for that week.
- Students can access the videos through Google Classroom. They will need their Google ID and Google password. Their Google ID would be their initials and their lunch number followed by @student.oregonk-12.com For example for John Smith whose lunch number is 12345, their Google ID would be js12345@student.oregonk-12.com If students can't remember their password, have them look in their planners to see if they wrote it down somewhere. If they don't remember it and don't have it written somewhere, contact the school office.
- Students can use their cell phones, tablets, or computer to access the video if they have the Google Classroom app on that device.
- For students without internet access, please feel free to have them call the teachers directly and the teacher will explain the packet and help them out.
- New videos will be posted on Mondays when the new packets for the week can be picked up.
- Once in Google Classroom, click the plus at the top, select join, and use the code **ywq6wwxf**

Below is the contact information for teachers

| | | |
|---|---|---|
| Brad Davis | bdavis@fernridge.k12.or.us | 541-362-4923 |
| Cameron Siegal | csiegal@fernridge.k12.or.us | 541-241-8995 |
| Colette McBride | cmcbride@fernridge.k12.or.us | 541-362-4757 |
| Heather Hohnstein | hhohnstein@fernridge.k12.or.us | 541-972-3122 |
| James Stoe | jstoe@fernridge.k12.or.us | 458-207-0030 |
| Jesse Light | jlight@fernridge.k12.or.us | 541-543-6034 |
| Justin Peeler | jpeeler@fernridge.k12.or.us | 541-972-3997 |
| Kathleen Pizzola | kpizzola@fernridge.k12.or.us | 541-833-0770 |
| Kyle Humphrey | khumphrey@fernridge.k12.or.us | 541-782-8255 |
| Marian French | mfrench@fernridge.k12.or.us | 541-362-4768 |
| Martha Pryor | mpryor@fernridge.k12.or.us | 541-933-0166 |
| Patrick Wondra | pwondra@fernridge.k12.or.us | 541-887-0154 |
| Ronda Gardner | rsgardner@fernridge.k12.or.us | 541.913.9519 |
| Ruth Larson | rlarson@fernridge.k12.or.us | 541-539-6258 |
| Ryan Brummett | rbrummett@fernridge.k12.or.us | 541.510.5345 |
| Ryan Chambers | rchambers@fernridge.k12.or.us | 541-362-4287 |
| Sarah Bennett | sbennett@fernridge.k12.or.us | 541-972-3015 |
| Simone D'Aubigne | sdaubigne@fernridge.k12.or.us | 541-731-7488 |
| Whitney Davis | wdavis@fernridge.k12.or.us | 541-972-3156 |

Fern Ridge Families;

I hope you all are doing well during this challenging and uncertain time. I would like to encourage you all to take some time each day to practice a little self-care, parents and families included. Below you will find some resources to help with that process. If you have any specific questions or need further resources, please do not hesitate to call or email.

Ryan Chambers, FRMS Counselor

## 6-8 Mental Health and Wellness Resources

https://www.mghclaycenter.org/hot-topics/7-ways-to-support-kids-and-teens-through-the-coronavirus-pandemic/ This is a great resource on how to support your student while they are at home. Included are general guidelines, as well as, age specific tips on how to have meaning conversations around the pandemic.

https://www.brainpop.com/social-emotional-learning/ BrainPOP is committed to developing SEL content that supports the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework. From movies on mindfulness, conflict resolution, determination, and more to activities like coding an anti-bullying campaign, BrainPOP provides a range of opportunities that address CASEL's five competencies: Self-Awareness, Self-Management, Social Awareness, Relationship Skills, and Responsible Decision-Making.

https://parade.com/1009774/stephanieosmanski/things-to-do-with-kids-during-coronavirus-quarantine/ Avoiding cabin fever with 125 fun ideas to keep kids entertained during thier time home.

https://www.youtube.com/watch?v=QcCdiGBd4ok Deep breathing exercise for stress and anxiety relief

https://www.youtube.com/watch?v=86HUcX8ZtAk Guided Relaxation exercise with music

https://www.thrivebehavioral.com/resources/links/ Lane county based resources for mental health services, mental health education, and parenting resources.

# Physical Education ACTIVITY LOG

**Name:** _____

**Period:** ____

## April 27 - May 3

Use this activity log to track your physical activity minutes for one week. Have an adult sign their initials next to each day that you complete 30-60 minutes. Do the Warm-Up Daily Routine, pick one fitness activity from list on back, pick one activity from list on back, and complete the cool-down. (Example day is done for you)

| Day | Warm-Up | Fitness | Activity | Cool-Down | Total |
|---|---|---|---|---|---|
| *Example Day* | *Daily Routine - 5 Min* | *One Minute Challenge Push Ups - 1 Min* | *Walk The Dog - 20 Min* | *Cool-Down - 5 Min* | *31 Minutes* |
| Monday | | | | | |
| Tuesday | | | | | |
| Wednesday | | | | | |
| Thursday | | | | | |
| Friday | | | | | |
| Saturday | | | | | |
| Sunday | | | | | |

**Goals for the week:**

1. The Students Will Be Able To (TSWBAT) complete at least 30 minutes of activity 5 days a week.
2. TSWBAT complete one DARBEE workout during the week.

**Reason:**

- During this tough time, students need to really focus not only on school, but themselves. Being physically active, even at home, is very important to help with the mental and physical state of the student. Please really try to get some activity in each day. This will help get everyone through this tough time.

**Contact Info:**


Mr. Peeler Phone Number - (541) 972-3997 Email - jpeeler@fernridge.k12or.us

Mrs. McBride Phone Number - (541) 362-4757 Email- cmcbride@fernridge.k12.or.us


**Warm-Up Daily Routine:**

# Physical Education ACTIVITY LOG

1. Tree Pose - 15 Seconds on Each Leg
2. 10 Push-Ups
3. 20 Swimmers
4. 30 Second Plank
5. 10 Small Crunches
6. 10 Oh-No's
7. 10 Boxers

**Cool-Down:**

Pick 5 muscles to stretch each day and hold each stretch for 20 seconds.

- Examples - Quads, Hamstrings, Calfs, Triceps, etc.

**Fitness Activities:**

1. One Minute Challenges - Do as many as possible for one minute
   a. Push-Ups
   b. Sit-Ups
   c. Air Squats
   d. Jump Squats
   e. Burpees
   f. Plank
   g. Jumping Jacks
   h. Jump Rope
2. Tabata - Pick 4 different exercises. Complete one exercise 8 times for 20 seconds of exercise and 10 seconds of rest. (Youtube has great examples)
   a. Example - 20 sec air squats/10 sec rest (repeat 8 times), 20 sec Oh-No's/10 sec rest (repeat 8 times), 20 sec plank/10 sec rest (repeat 8 times), 20 sec jumping jacks/10 sec rest (repeat 8 times)
3. Darbee Workouts - www.Darbee.com (great examples)
   a. ***Final Bell*** - 5 Rounds of: 20 punches, 20 uppercut punches, 20 punches, 20 hook punches, 20 punches, 20 uppercut punches, 20 punches, 20 uppercut punches, 20 punches (2 minute rest between rounds)
   b. ***Permission Granted***- 5 Rounds of: 20 High Knees, 10 Air Squats, 20 High Knees, 10 Full Sit-ups, 20 High Knees, 10 Air Squats, 20 High Knees, 10 Full Sit-Ups, 20 High Knees (2 minute rest between rounds)
   c. ***Clean Slate*** - 5 Rounds of: 20 Marching Sets, 4 Reverse Lunges, 20 Marching Sets, 4 Side Lunges, 20 Marching Sets, 4 Front Lunges, 20 Marching Sets, 4 Around the World Lunges, 20 Marching Sets (2 minute rest between rounds)
   d. ***Washboard Abs***- 5 Rounds of: 10 Leg Raises, 20 Small Crunches, 10 Leg Raises, 20 Boxers, 10 Leg Raises, 20 Oh No's (2 minute rest between rounds)

**Activity Examples:**

| | | |
|---|---|---|
| Walk the Dog | Frisbee | Play Catch |
| Family Walk | Yard Work | Stack Wood |
| Family Hike | Dance Party | Go for a Jog |
| Basketball | Clean House | Wiffle Ball |
| Badminton | Tag Game | Soccer |
| Clean Horse Stalls | Bike Riding | Other |

Plan For The Week Students Template
Plan for the week of: April 27th- May 1st

| |
|---|
| At the end of the week you will know, understand, and/or be able to do the following: |
| You will evaluate plot structure and development and the way conflicts are resolved, additionally you will apply writing skills that connect to the literature. |
| Why does this learning matter? |
| This learning matters because Judith Gorog writes to entertain, this is a fun and surprising story, you'll love it! |
| The plan for the week : |
| • **Monday, 4/27:** Journal and answer the prompt "Think about what you might wish for if you were granted three wishes. Please write a half page minimum explaining what wishes you would choose and why you chose the wishes you did."<br>• **Tuesday, 4/28:** When we read, we read with the purpose of demonstrating our understanding. Read "Those Three Wishes," and answer the comprehension as you read.<br>• **Wednesday, 4/29:** Journal and answer the prompt "Fable versus Fairy Tale" using RACE<br>• **Thursday, 4/30**: Write a continuation of the story "Those Three Wishes."<br>• **Friday, 5/1:** An altruist is someone who helps others without expecting anything in return. Write a journal that is a half page about a world where everyone was altruistic or about a world where no one was altruistic.<br>• **Challenge and extension writing:** Retell "Those Three Wishes" from the snail's perspective. Would this story be as effective this way? Try to include how long the magical snail has been granting wishes to people like Melinda, whether the snail has been granting wishes for a long time or a short time, would that change their view on the world? |
| Who To Ask For Help and How To Reach Them |
| Ruth Larson, 8th grade English teacher. My hours of availability are from 8am to 4pm. Email is the best way to contact me at rlarson@fernridge.k12.or.us. I am also available by phone using google voice, please call me for immediate support at (541) 539-6258. I usually answer emails within an hour or two of receiving them. If I hear from you outside of my hours, it will take longer than two hours to get back to you, but our communication is of highest priority to me.<br>Additionally, I know that working adults may not have time to connect with me during those hours because you don't get home from work or you don't clock out of working from home until after 5pm, if that's the case for you, like it is for many, please email me! I'm also a mom to a 9 year old, working from home, so being available for him and taking care of my family during this closure is important to me. Please have patience with this system of communication and I'm happy to work with you always. |

Dear Families,

On Monday May 4th - Friday May 29th, the 8th grade will be reading "The Outsiders" or an end of the year novel of their choice. Many of you have already gotten in touch with me, from the email I sent out on April 15th, but if you haven't, that's okay, please email me at rlarson@fernridge.k12.or.us , or call me at (541) 539-6258, or text me a picture of the book you choose for your child. When you do so, answer this question that will help me with your kiddo. **Which option works for you?** Here's how the options work.

**Option 1:** Students digitally read "The Outsiders," I have attached the digital copy and audiobook to this page so parents can preview the book first. Here is the link to the book as a pdf, be aware that there are some typos. You may download it, but there's no need to print it.
https://docs.google.com/viewer?a=v&pid=sites&srcid=cmljaGxhbmQyLm9yZ3xsYXdod3xneDoyNjgzNWEzYzVjNDUxOWZi
Or type into google "The Outsiders PDF" and that should work too. Below is the Outsiders Audiobook through Google, each chapter takes around a half hour, sometimes less time if the chapter is short.
https://www.youtube.com/playlist?list=PLPk1Tz3DGg99rYJjEKT7SaLZ9gr7M-L1N

**Option 2:** Students can read a book of their choice, just send me (via: phone, email, or text message) the title and author and I will check that it matches your kids lexile, that way I know the book is appropriate, and I will approve it. During state testing, 8th graders checked out a book from the school library and could use that book as an option before they have to return it to the school library. Also, the community library has novels available using their drop off and pick up service.

**Option 3:** Students can read a book of their parent's choice. This is also a good option since parents remember reading certain books that their kid never had a chance to read, this would be a great opportunity for parents to relive those classics with their kiddo.

**Option 4:** Students may read "The Outsiders" as a hardcover or paperback book. I still have a few available at the school, that parents can pick up for their kid and return it before the school year is over, the plan here is to have parents drop off packets on Monday May 4th, and pick up the novel in an envelope with your kids name on it. You will know if a novel is waiting for you because I would have contacted you to confirm this, by Friday May 1st. I will have sanitized the books a week in advance, so they should be safe to read.

I sure appreciate you taking the time to get in touch with me. Reading for the month of May is a great way to end the school year before your child starts high school.

Thank you,

Ruth Larson

Distance Learning
Week 4 April 27th - May 1st

Monday, 4/27/20

Journal: Think about what you might wish for if you were granted three wishes. Please write a half page, minimum, explaining what wishes you would choose and why you chose the wishes you did.

8th LA Pg 3

**Short Story –"Those Three Wishes" by Judith Gorog**

No one ever said that Melinda Alice was nice. That wasn't the word used. No, she was clever, even witty. She was called—never to her face, however—Melinda Malice. Melinda Alice was clever and cruel. Her mother, when she thought about it at all, hoped Melinda would grow out of it. To her father, Melinda's very good grades mattered.

It was Melinda Alice, back in the eighth grade, who had labeled the shy myopic new girl "Contamination" and was the first to pretend that anything or anyone touched by the new girl had to be cleaned, inoculated, or avoided. High school had merely given Melinda Alice greater scope for her talents.

The surprising thing about Melinda Alice was her power; no one trusted her, but no one avoided her either. She was always included, always in the middle. If you had seen her, pretty and witty, in the center of a group of students walking past your house, you'd have thought, "There goes a natural leader."

Melinda Alice had left for school early. She wanted to study alone in a quiet spot she had because there was going to be big math test, and Melinda Alice was not prepared. That A mattered; so Melinda Alice walked to school alone, planning her studies. She didn't usually notice nature much, so she nearly stepped on a beautiful snail that was making its way across the sidewalk.

"Ugh. Yucky thing," thought Melinda Alice, then stopped. Not wanting to step on the snail accidentally was one thing, but now she lifted her shoe to crush it.

"Please don't," said the snail.

"Why not?" retorted Melinda Alice.

"I'll give you three wishes," replied the snail evenly.

"Agreed," said Melinda Alice. "My first wish is that my next," she paused a split second, "my next thousand wishes come true." She smiled triumphantly and opened her bag to take out a small notebook and pencil to keep track.

Melinda Alice was sure she heard the snail say, "What a clever girl," as it made it to the safety of an ivy bed beside the sidewalk.

During the rest of the walk to school, Melinda Alice was occupied with wonderful ideas. She would have beautiful clothes. "Wish number two, that I will always be perfectly dressed," and she was just that. True, her new outfit was not a lot different from the one she had worn leaving the house, but that only meant Melinda Alice liked her own taste.

After thinking for awhile, she wrote, "Wish number three. I wish for pierced ears and small gold earrings." Her father had not allowed Melinda to have pierced ears, but now she had them anyway. She felt her new earrings and shook her beautiful hair in delight. "I can have anything: stereo, tapes, TV videodisc, moped, car, anything! All my life!" She hugged her books to herself in delight.

By the time she reached school, Melinda was almost an altruist; she could wish for peace. Then she wondered, "Is the snail that powerful?" She felt her ears, looked at her perfect blouse, skirt, jacket, shoes. "I could make ugly people beautiful, cure cripples…" She stopped. The wave of altruism had washed past. "I could pay people back who deserve it!" Melinda Alice looked at the school, at all the kids. She had an enormous sense of power. "They all have to do what I want now." She walked down the crowded halls to her locker. Melinda Alice could be sweet; she could be witty. She could—The bell rang for homeroom. Melinda Alice stashed her books, slammed the locker shut, and just made it to her seat.

"Hey, Melinda Alice," whispered Fred. "You know that big math test next period?"

"Oh, no," grimaced Melinda Alice. Her thoughts raced; "That darned snail made me late, and I forgot to study."

"I'll blow it," she groaned aloud. "I wish I were dead."

Tuesday, 4/28/20

Read the short story "Those Three Wishes" by Judith Gorog, our purpose is relating and reacting to the characters actions. Please answer the comprehension questions as you read.

1. Who is the main character? What qualities or characteristics would you use to describe her?

2. Why doesn't Melinda step on the snail?

3. What was her first wish?

4. What was her second wish?

5. What was her third wish?

6. In your opinion, what might be the message of this story? Explain how you know this is the message.

Wednesday, 4/29/20

Fable versus Fairy Tale
A fable is short fiction that gives a moral lesson at the end. A fairy tale is imaginary fiction created for entertainment value in a fantasy world. **Do you feel that "Those Three Wishes" is more of a fable or a fairy tale?** Defend your answer in a reflection using RACE.

Restate the question

Answer the question

Cite text evidence to support your answer

Explain why you used that text evidence

Thursday, 4/30/20

The resolution and the climax of the story happen at the same time, in the last line, where Melinda Alice dies, this death occurs in the reader's imagination after the story ends. It is not described at all; since all her other wishes came true right away, it is clear that her death is certain and will happen immediately. Write a continuation of the story. Tell what happened to Melinda Alice and what happened to the snail in a half page or more.

8th LA pg 8

Friday, 5/1/20

An altruist is someone who helps others without expecting anything in return. Sometimes people do good deeds because they get an actual reward, like: money, praise, or other motivators. If one is an altruist and they do good deeds, the reward is the feeling of doing a good thing. Write a journal that is a half page about a world where everyone was altruistic or about a world where no one was altruistic.

8th LA Pg 9

**Challenge and extension writing:** Retell "Those Three Wishes" from the snail's perspective. Would this story be as effective this way? Try to include how long the magical snail has been granting wishes to people like Melinda, whether the snail has been granting wishes for a long time or a short time, would that change their view on the world?

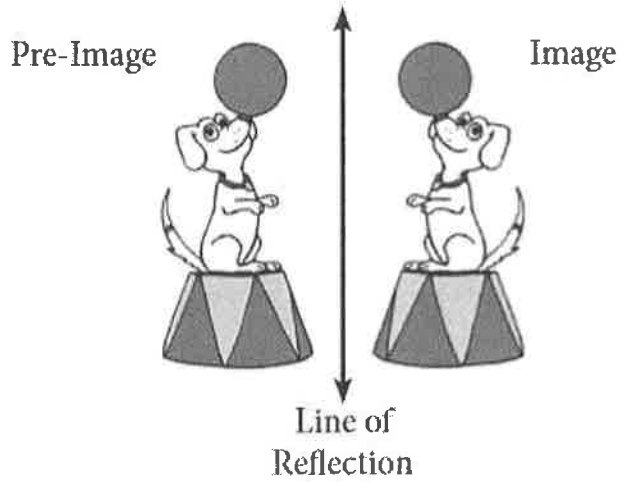
Math Plan Course 3

Week 4-27 through 5-1

| At the end of the week you will know, understand, and/or be able to do the following: |
|---|
| Be able to recognize reflections and translations as a set of transformations (movements of objects) and perform them. |
| Why does this learning matter? |
| As people continuously try to understand the world around them transformations are at the center of how mathematicians think about geometry. The game tetris is solely based on performing transformations to objects in a puzzle. Transformations can be found in most facets of life; your face is continuously making transformations. See how many transformation you recognize around you are they everywhere? |
| The plan for the week : |
| • Monday: Introduce transformations specifically reflections<br>(Goal is to start to understand transformations and recognize what a reflection is)<br>• Tuesday: Perform reflections<br>(practice moving points and objects that are being reflected)<br>• Wednesday: Introduce translations with a few problems to do<br>(Goal is to start to understand translations as moving an object)<br>• Thursday: Perform translations<br>(practice moving points and objects that are being translated)<br>• Friday: Take a quick definition quiz and either do sudoku or build three holes in a miniature golf course using reflections |
| Who To Ask For Help and How To Reach Them |
| Please feel free to call or e-mail on any of this if you are stuck or just wanting to talk about math. Mr. Humphrey e-mail or phone are great.<br>E-mail: Khumphrey@fernridge.k12.or.us<br>Phone 541.782.8255 |

Math 4/27 **Monday** Reflections Name_____

Last week we finished off the Pythagorean theorem which concluded with seeing that given any two points we can find their distance with the pythagorean theorem. Moving forward, over the next few weeks we are going to study transformations. A transformation is the movement of a point or figure that changes it's size or position. The original figure is called the pre-image and the resulting figure is the image. We are going to go through several different types of transformations over the coming weeks this lesson focus on reflections. A reflection is a transformation that flips a figure over a line. The lines we will mainly use are the x and the y-axis.



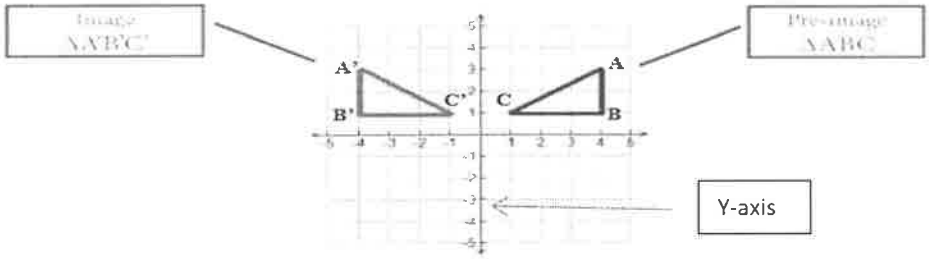

Reflections are just like those in the mirror. A reflection is a mirror image over a line. The pre-image or original has been reflected over a line. The result of the reflection is the image. This vertical line could have been the y-axis.

We will be reflecting much less complex images than the example above. We will mainly be transforming (moving) pre-images (original) that have somewhere between three to four points.

Here is an example below notice triangle ABC as the original and triangle ABC (prime) is the image. This is typically how we will label points that have been moved

Example 1

The vertices of a pre-image are often labeled with letters. After a transformation occurs, the new image has vertices that are labeled with the same letter but an apostrophe is added. For example, if $\Delta ABC$ is reflected over a line, then the image is labeled $\Delta A'B'C'$. This is read "Triangle A prime, B prime, C prime".




In the example above Triangle ABC has the points C (1,1) B (4,1) and A(4 3) recall (x,y)
The triangle has been reflected over the y-axis giving us and image
With with points C' (−1,1) B'(−4,1) and A'(-4,3)
Notice that when you reflect something over the y-axis only the x changes (recall the x coordinate is the left to right coordinate). Here is the algorithm for reflections

**Reflections over the *x*- and *y*-Axes**

When a point is reflected over the *x*-axis, the *x*-coordinate stays the same and the *y*-coordinate is changed to its opposite. $(x, y) \rightarrow (x, -y)$

When a point is reflected over the *y*-axis, the *y*-coordinate stays the same and the *x*-coordinate is changed to its opposite. $(x, y) \rightarrow (-x, y)$

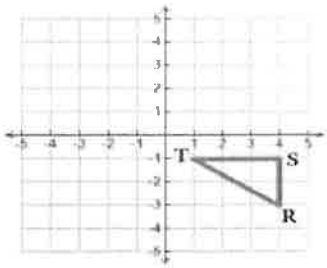
8th math

Math 4/27 **Monday** Reflections Name_____

Look at the next example of a transformation over the x-axis and then answer the questions at the bottom

**EXAMPLE 2**

**Graph the image of ΔRST under the transformation rule $(x, y) \rightarrow (x, -y)$. Which axis is the image reflected over?**




**SOLUTION**

Record the ordered pairs.

R(4, −3)
S(4, −1)
T(1, −1)

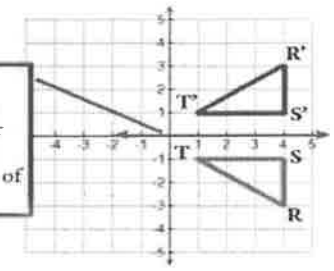
Change each of the *y*-coordinates to its opposite.

R'(4, 3)
S'(4, 1)
T'(1, 1)

Graph the ordered pairs of the image.

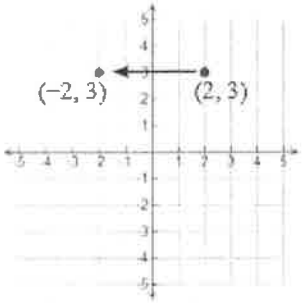
The *x*-axis is the line of reflection.

When the *y*-coordinates change to their opposites, the *x*-axis is the line of reflection.




**y-axis reflection**

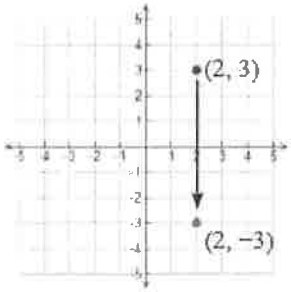
When a figure is reflected over the *y*-axis, the *x*-coordinate changes sign.




$(x, y) \longrightarrow (-x, y)$

**x-axis reflection**

When a figure is reflected over the *x*-axis, the *y*-coordinate changes sign.




$(x, y) \longrightarrow (x, -y)$

## Question for understanding

1. When a graph is reflected over the x-axis, the _____-coordinates change to their opposites.

2. When a graph is reflected over the y-axis, the _____-coordinates change to their opposites.

3. The point (5, 4) is reflected over the y-axis. What are the coordinates of the new point?

4. The point (−8, 2) is reflected over the x-axis. What are the coordinates of the new point?

5. The point (2, −7) was reflected over the x-axis or the y-axis. Its image is at (−2, −7). Which axis was the point reflected over?

8th math 3

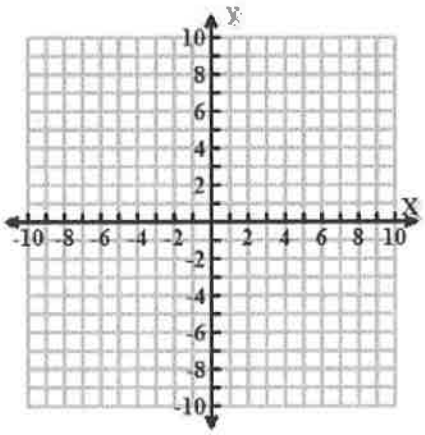
Math 4/28 **Tuesday** Reflections Name_____

1. The point (−1, 4) is reflected over the y-axis. What are the coordinates of the new point?

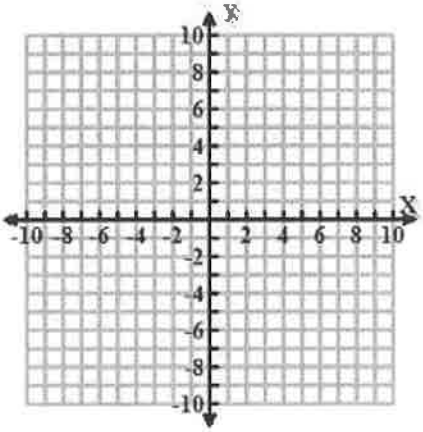
2. The point (−5, −9) is reflected over the x-axis. What are the coordinates of the new point?

**ΔRST has the coordinates R(3, −5), S(2, −2) and T(5, −3). For each transformation below, graph the pre-image and image. Label all vertices.**

3. Reflection over the x-axis.



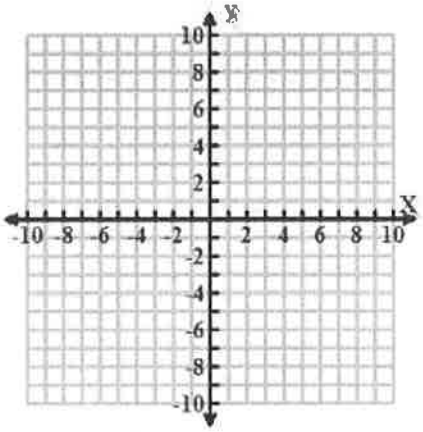

4. Reflection over the y-axis.




5. A rectangle has vertices at M(−2, 1), P(−2, 4), Q(−4, 4) and K(−4, 1).

a. Graph and label the rectangle. This is the pre-image.

b. Graph and label the rectangle after a reflection over the y-axis. List the coordinates of the vertices.




6. A pre-image has coordinates A(3, −5), B(3, 1) and C(−2, 0). The image has coordinates A'(3, 5), B'(3, −1) and C'(−2, 0). What type of reflection occurred? Explain how you know.

7. The point (7, 0) is reflected over the x-axis. What do you notice about the coordinates of the reflected point? Why is this?

Review

Determine if the given lengths form a right triangle.

8. 2, 3, 5

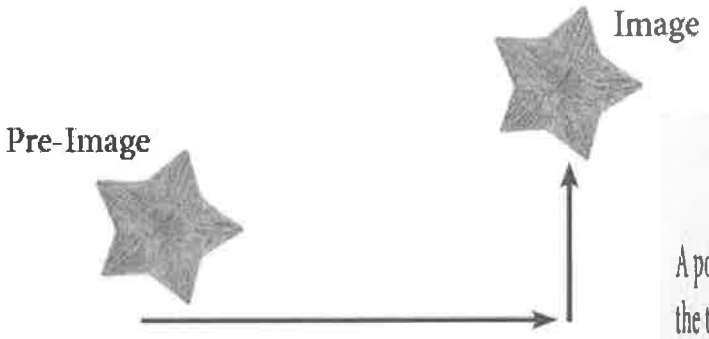
9. 6, 8, 10

10. 10, 26, 24

8th Math

Math 4/29 **Wednesday** Translation Name_____

Our second time transformation that we will be doing is a translation. Fill in what the first type of transformation we did_____. Translations are simply moving objects around to a new position. The movements are either up, down, left or right. Notice that the figure below still has the same orientation (it is not turned or flipped) but it is in a different location.




The algorithm for translations is as follows

## Translations on a Coordinate Plane

A point in a pre-image is translated $a$ units horizontally and $b$ units vertically using the transformation rule: $(x, y) \rightarrow (x + a, y + b)$.

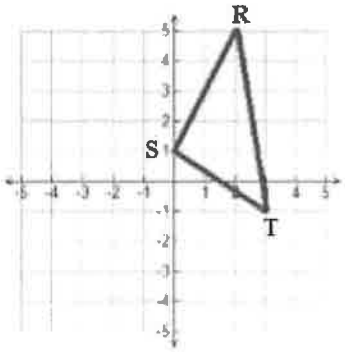
If $a > 0$, the point is translated right. If $b > 0$, the point is translated up.
If $a < 0$, the point is translated left. If $b < 0$, the point is translated down.

**EXAMPLE 1**

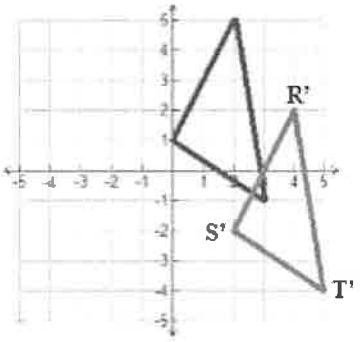
**A triangle with coordinates R(2, 5), S(0, 1) and T(3, –1) is translated 2 units right and 3 units down. What are the coordinates of ΔR'S'T'?**

**SOLUTION**

Graph the pre-image (original figure).




Graph the image by translating each point. Translate each point 2 units right (add 2 to the $x$-value) and 3 units down (subtract 3 from the $y$-value).




Write the ordered pairs for the coordinates of ΔR'S'T'.

R'(4, 2), S'(2, –2), T'(5, –4)

8th math

Math 4/29 **Wednesday** Translation Name_____

**EXAMPLE 2**

**Describe the horizontal and/or vertical path described by each transformation rule.**
a. $(x, y) \rightarrow (x + 1, y + 4)$
b. $(x, y) \rightarrow (x - 2, y)$

**SOLUTIONS**

a. When the value being added to the $x$-coordinate is positive, the point moves right. $(x, y) \rightarrow (x + 1, y + 4)$

When the value being added to the $y$-coordinate is positive, the point moves up. $(x, y) \rightarrow (x + 1, y + 4)$

Translated 1 unit right and 4 units up.

b. When the value being added to the $x$-coordinate is negative, the point moves left. $(x, y) \rightarrow (x - 2, y)$

Since there is no change to the $y$-coordinate, the graph is not translated vertically. $(x, y) \rightarrow (x - 2, y)$

Translated 2 units left.

The next example really incorporates everything that you might use to solve the problems we will have

**EXAMPLE 3**

**A transformation rule of $(x, y) \rightarrow (x + 6, y - 1)$ is applied to the triangle formed by the points D(−5, 2), A(−2, 2) and B(−2, 4). Graph ΔDAB and ΔD'A'B'.**

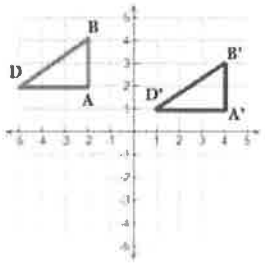
**SOLUTION**

The transformation rule states that ΔDAB is translated right 6 units $(x + 6)$ and down 1 unit $(y - 1)$.

Add 6 to each $x$-coordinate and subtract 1 from each $y$-coordinate.

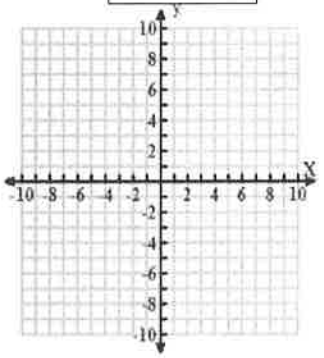
$D(-5, 2) \rightarrow (-5 + 6, 2 - 1) \rightarrow D'(1, 1)$
$A(-2, 2) \rightarrow (-2 + 6, 2 - 1) \rightarrow A'(4, 1)$
$B(-2, 4) \rightarrow (-2 + 6, 4 - 1) \rightarrow B'(4, 3)$

Graph the pre-image and image.




Answer the following

For #7




**Determine the coordinates of the image of F(−1, 9) under the following translations.**

**1.** $(x, y) \rightarrow (x + 3, y)$

**2.** Translated down 5 units

**3.** Translated left 2 units and up 1 unit

**4.** $(x, y) \rightarrow (x - 4, y - 8)$

**5.** $(x, y) \rightarrow (x + 6, y + 11)$

**6.** Translated right 7 units and down 3 units

**7.** ΔPBM has vertices at P(1, 0), B(5, 2) and M(4, 4).
a. Graph ΔPBM. This is the pre-image.
b. Graph ΔP'B'M' after a translation 2 units left and 3 units down. List the coordinates of the vertices.

8th math

Math 4/29 **Thursday** Translation Name_____

Determine the coordinates of the image of D(4, −3) under the following translations.

1. (x, y) → (x + 3, y)

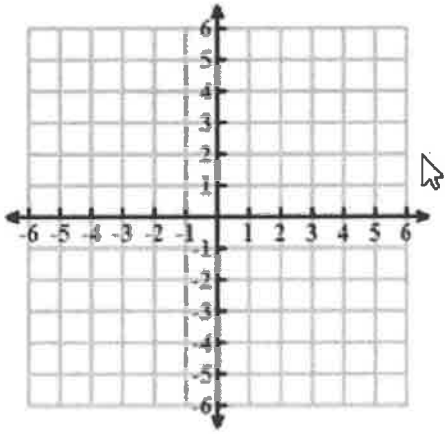
2. Translated down 5 units

3. Translated left 2 units and up 1 unit

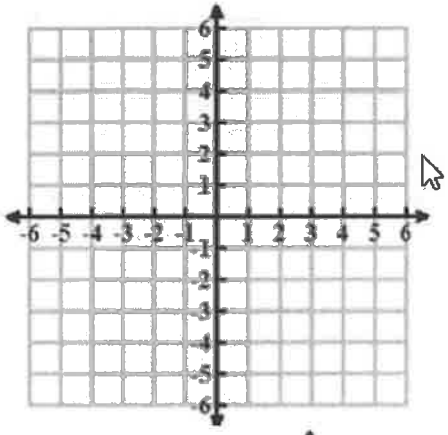
4. (x, y) → (x − 4, y − 8)

ΔWIN has the coordinates W(−4, 1), I(0, 2) and N(−3, 3). For each transformation below, graph the pre-image and image. Label all vertices.

5. (x, y) → (x, y − 5)



6. Translated right 4 units and up 2 units

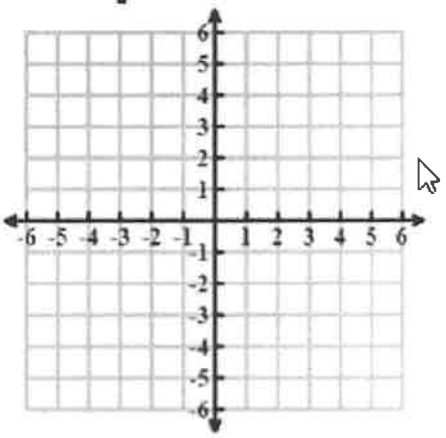


7. A parallelogram has vertices at F(1, 1), R(4, 1), O(5, −2) and G(2, −2).

a. Graph and label the parallelogram. This is the pre-image. B

b. . Graph and label the parallelogram after a translation 3 units left and 4 units

c. List the coordinates of the vertices.



8. A pre-image has coordinates N(3, −2), A(5, 0) and P(2, 4). The image has coordinates N'(2, 0), A'(4, 2) and P'(1, 6). Write a transformation rule to describe the path the pre-image made to arrive at the image.

Review

9 Find the length of the hypotenuse given the two leg lengths. Approximate to the nearest tenth if necessary.

a. 3, 4, ____

b. 1, 3, ____

c. 5, 12, ____

8th math

Math 5/1 **Friday** Mini Golf challenge or Sudoku Name_____

Pick either page 8 or page 9 to do and circle that here if you are finishing math really quickly I'd suggest doing them both if not do whichever you prefer.
Review questions. Complete sentences

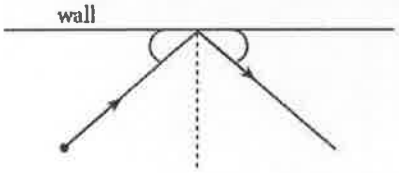
1. What is a reflection?

2. What is a translation?

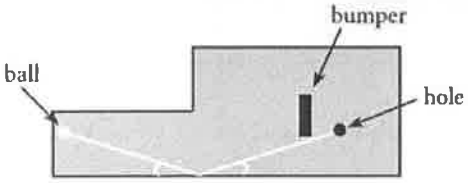
3. What is a transformation?

## Tic-Tac-Toe ~ Miniature Golf

When a ball is hit without any spin against a wall, it will bounce off the wall at an angle equal to the angle at which it hit the wall. The path of the ball is reflected over a line perpendicular to where the ball hit the wall.




Sometimes when you play miniature golf, you need to hit the ball against the wall using reflections in order to get a hole-in-one.




Suppose you are asked to design three miniature golf holes. The owner would like the first hole to require one reflection for a hole-in-one, the second hole to require two reflections for a hole-in-one and the third hole to require three reflections for a hole-in-one. You can use bumpers or the layout of the hole to meet these requirements.

Clearly draw your holes and show the path the ball will need to follow in order for the player to hit a hole-in-one. Use a straightedge. Be sure the reflections of the ball against each wall or bumper are clearly marked with congruent angles.

8th math

Math 5/1 **Friday** Mini Golf challenge or Sudoku Name_____

Pick either page 8 or page 9 to do and circle that on the page you are doing

Doing page 9
(FYI if you already answered these questions on page 8 please do not answer them again.)

1.What is a reflection?

2.What is a translation?

4. What is a transformation?

Pick at least one puzzle to try.

Easy

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | 7 | | 9 | 6 | | | 2 | |
| 9 | | 2 | | 3 | | 1 | | 7 |
| 5 | | | | 7 | 4 | 6 | 9 | |
| | | | 8 | | 5 | 7 | 1 | 4 |
| 2 | 8 | 5 | | 4 | | | | 9 |
| | 4 | 1 | 6 | | 3 | | 8 | |
| | | 7 | 4 | | 2 | 9 | | 6 |
| 4 | 9 | 3 | | 1 | | 2 | | |
| | 2 | | 3 | | 9 | | 7 | 1 |

Medium

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | 8 | | 6 | |
| 3 | | | | | 7 | | | 9 |
| | | | 5 | 6 | | 7 | 4 | |
| 9 | 3 | | 7 | 8 | | | 5 | |
| | | 5 | 4 | | 9 | 1 | | |
| | 2 | | | 5 | 6 | | 9 | 7 |
| | 9 | 7 | | 3 | 5 | | | |
| 5 | | | 8 | | | | | 4 |
| | 1 | | 6 | | | | | |

Hard

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 8 | | | | | 9 | | 2 |
| | | | | | | | 1 | |
| | | 9 | 5 | 6 | | | | 8 |
| | | | 4 | | 5 | 3 | | |
| | 6 | 5 | 7 | | 8 | 4 | 9 | |
| | | 4 | 9 | | 6 | | | |
| 8 | | | | 4 | 1 | 5 | | |
| | 4 | | | | | | | |
| 5 | | 7 | | | | | 6 | |

8th math
9