



WATERFORD UNIFIED SCHOOL DISTRICT

Eighth Grade

At-Home Learning

This packet is optional review learning and will not need to be returned.

As a result of these unprecedented times, Waterford Unified School District staff is working to develop plans for distance learning options.

Phase I of our plan includes a variety of online educational resources and activities for students and families to access during Spring Break. These optional resources can be accessed by visiting the District website at www.waterford.k12.ca.us.

For those without internet access, we have also included several options for free or low-cost internet access during the COVID-19 crisis at <https://www.waterford.k12.ca.us/o/waterford-usd/page/internet-offers>

6-8 Learning Daily Sample Schedule

Time	Activity
8:00-9:00 am	Wake up, make your bed, eat breakfast and get ready for an awesome day! And yes, change out of PJs :)
9:00-9:30 am	Reading Time
9:30-10:00 am	Brain Break
10:00-10:30 am	Writing Time
10:30-11:00 am	Break: Ideally take a walk, shoot some hoops
11:00-11:30 am	Math Time
11:30 am-12:00 pm	Word Study
12:00-1:00 pm	Lunch
1:00-1:20 pm	Science Time-explore activities online if available
1:20-1:40 pm	Social Studies Time-explore activities online if available
1:40-2:10 pm	Art, Music or Virtual Field-explore activities online if available
2:10-9:00 pm	Chores, Relax, go outside, work on passions, time with family
9:00-10:00 pm	Lights out, devices away, time to sleep!

Summaries

Monday : _____

Tuesday : _____

Wednesday : _____

Thursday : _____

Tuesday : _____

Summaries

Monday : _____

Tuesday : _____

Wednesday : _____

Thursday : _____

Tuesday : _____

Summaries

Monday : _____

Tuesday : _____

Wednesday : _____

Thursday : _____

Tuesday : _____

Choose something you have recently read and write a review. This includes an article, a book, or a short story.

A Reading Review by _____

Title: _____ Author: _____

Summary:

Recommendation(why or why not):

Choose something you have recently read and write a review. This includes an article, a book, or a short story.

A Reading Review by _____

Title: _____ Author: _____

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Choose something you have recently read and write a review. This includes an article, a book, or a short story.

A Reading Review by _____

Title: _____ Author: _____

Summary:

Recommendation(why or why not):

Journal Entry

Directions:

Write a personal journal entry for every weekday. These can be your own thoughts, a summary of your day, your goals for the future, or a retelling of an event. Don't worry about spelling or conventions. The goal is for you to get your ideas down. There is no minimum or maximum to the length of each journal entry. You can use a blank sheet if you don't have enough room on this page.

Journal Entry - Monday

Journal Entry - Tuesday

Journal Entry - Wednesday

Journal Entry - Thursday

Journal Entry - Friday

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Short Story

Directions:

Write a short story. You may use one of the prompts below or write a story of your own inspiration. Remember to include all story elements (problem/solution, exposition, rising action, climax, and falling action).

Be creative!

Prompts:

- Tell a story about a day in which everything went wrong.
- Write a story about yourself as a hero. What did you do to become a hero? Tell
- Imagine you woke up one morning and found that you had switched places with a dog or a cat. Write a story of your day as a dog or a cat.
- On your birthday, a strange-looking lady came to your door and handed you a wrapped present. You rattled it. It made a noise. Write a story about this present.
- Write a story entirely made up of letters. These letters could include letters exchanged in the mail, emails or even lengthy text messages. Who is writing the letters? Why? Ensure your writing is reflective of the medium of communication you choose. For example, emails may contain emoticons, short abbreviations and common phrases such as lol (laugh out loud).
- Write a story where you take a Mythological character and place them in a modern-day setting. How will that character react to life in our world? Would they fit in well with society or would they seem out of place?
- Write about something ugly — war, fear, hate, cruelty — but find the beauty (silver lining) in it.
- Write a story where you are a character witnessing a historical event. For example; the Peloponnesian War, Great Depression, First Moon Landing, Signing of the Declaration of Independence, D-Day, etc...

Name: _____

Date: _____

Finding Analogies

Analogy Definition

An analogy shows comparison between things that have similar features, often used to help explain a principle or idea.

Example

apple : tree :: milk : cow

Direction: Look at the pair of words that are given in each incomplete analogy. Find and join the words to make two pairs of words.

- dresser is to wood as _____
graceful is to hear window is to glass mine is to sheep
- _____ as piano is to play
cobbler is to needle kitchen is to pen book is to read
- which is to witch as _____
see is to see weather is to whether leave is to left
- smile is to frown as _____
ugly is to beautiful bird is to fly paint is to water
- _____ as hurrying is to rushing
sad is to happy glad is to sorry happy is to joyful
- thumb is to hand as _____
dull is to blunt diamond is to ring stove is to water
- _____ as pan is to cook
towel is to dry alert is to sit kitchen is to picnic
- carpenter is to furniture as _____
tailor is to cleaning mason is to wall engineer is to needle
- _____ as microphone is to speech
sleep is to sofa noise is to speak spoon is to soup
- helmet is to head as _____
mask is to face open is to up positive is to credit

Name: _____ Date: _____

Subject and Object Pronouns (Circling Part 1) L.6.1a

A pronoun is a word that may take the place of one or more nouns.

Directions: Circle the **subject pronoun** in each sentence below.

Example A- We are going to the store today.

Answer- We

1. I think that we are ready for the game.
2. We are going to the football game this weekend.
3. He is a bright young man.
4. It is one of the best movies I have seen.
5. Tell her that she must arrive on time.

Directions: Circle the **object pronoun** in each sentence below.

Example A: Can you tell him the good news?

Answer: him

6. Can you make sure they arrive on time?
7. The funny thing is that he doesn't understand.
8. Please take them to the park.
9. I can tell that she really works hard in school.
10. Make sure that they understand the rules.

Name: _____

Date: _____

Reflexive Pronouns Worksheet (Circling Part 1) [ELA-Literacy.L.6.1b](#)

A pronoun is a word that may take the place of one or more nouns.
Reflexive Pronouns include; Myself, Yourself, Himself, Herself,
Ourselves, Themselves

Directions: Circle the reflexive pronoun in each sentence below.

Example A: He bought the gift for himself.

Answer: himself

1. Make sure to remind yourself of the things you need to do.
2. She thought to herself while she was in the library.
3. I saw myself in the mirror.
4. We blamed ourselves for the mistake.
5. Can you help yourselves?
6. They cannot look after themselves.
7. Why do you blame yourself for everything?
8. Please help yourself to some food.
9. Don't be ashamed of yourself.
10. I bought a gift for myself.
11. I will do the job myself.
12. They ate all the food themselves.
13. I hurt myself when I jumped off the roof.

Name: _____

Date: _____

Capitalization and Punctuation Marks Worksheet

Period (.)

Exclamation Mark (!)

Question Mark (?)

Comma (,)

Apostrophe (')

Quotation Mark ("___")

Directions: Re-write each sentence below. Capitalize and add the correct punctuation marks where needed.

Example A: do you know where I can find the lake

Answer: Do you know where I can find the lake?

1. how do you feel after your run in the afternoon

2. when do we get to go to the museum

3. i cant wait until it is my birthday

4. john asked, how are you this morning

5. david john and sam went hiking in the colorado mountains

6. i went to tell my friends sarah michelle and veronica about my party

Name: _____

Date: _____

Adding Commas Worksheet

Commas you use in writing are similar to pauses you use in speech. Commas are also used to group similar items together.

Directions: Re-write the following sentences on the lines below. Add commas and other punctuation where needed.

Example A: Hey what are you doing after school

Answer: Hey, what are you doing after school?

1. After school she needs to walk home do her homework and wash dishes.

2. I was born on July 30 1995.

3. Once he gets to the baseball game John is going to relax eat and talk.

4. After going to work he will go to the market video store and coffee shop.

5. Yes I got a good grade on my test.

6. First of all you are doing very well in school sports and the chess club.

7. Finally I would like to tell you what happened.

8. Michael David and Stephen would like to play on the same team.

Time for Jazz

by ReadWorks



Lina had been at it for an entire hour. Her fingers were poised on the shiny white keys of her piano. Old and crinkled sheet music sat in front of her, the black notes blankly staring at her. She stared at them for so long, her vision started to blur. Lina had been working on this piece for the past week, trying to master the tricky rhythm and memorize the movements required by her long fingers. She loved the piano; she always had, ever since she started playing at the age of six. But something was beginning to bother her. She was growing tired of the pieces her teacher assigned her week after week. They were all classical music pieces, and even though Lina loved them, she was itching to try something new.

She decided to take a break. She got up from the piano bench and stretched her stiff limbs. She walked into the kitchen, grabbed some celery and peanut butter out of the fridge, and turned on the radio. The room was suddenly filled with the sound of blaring trumpets, beating drums, a singing saxophone, and trilling piano keys. She assumed her dad had been listening to this station earlier in the day—he had always been a big fan of jazz music. Lina had never really joined in on her father's passion for that type of music, but something about this particular song made her listen more

carefully.

Lina's trance was broken by the sound of the back door opening.

"Hellooooo!" her dad called out.

"Hey dad, what's the name of this song?" she asked him, eagerly.

He stopped in his tracks and listened for a few seconds.

"I think this one is called 'Things Ain't What They Used to Be' by Duke Ellington and his big band," he said. "Isn't it beautiful?"

Lina nodded her head in agreement. "I wish I could play the piano like that," she told him.

"Why not?" he asked. "All your classical piano training will help a lot if you want to learn jazz piano."

"All right, I'll ask Mr. Wilson next week at class if we can start doing some jazz lessons!" she said excitedly.

Lina continued to listen to the jazz radio station for the rest of the evening. While she and her dad prepared dinner, they were serenaded by the sounds of crooning saxophones and beating cymbals. The two didn't talk; they just swayed back and forth to the rhythm of the music while chopping vegetables and waiting for pasta to boil.

Just as they were setting the dinner table, Lina's mom rushed through the door.

"Sorry I'm late!" she said. "I had to stay longer at work than I had planned."

"You're just in time for dinner!" Lina replied and pulled out a chair for her mom to sit down.

As she plopped down onto her seat, she caught the melody of the tune that was playing on the radio. "Ohhhh, I love this song. My father used to play this on our piano when I was little," she said with a smile.

Lina asked if her mom listened to jazz while growing up.

"Oh, all the time!" she exclaimed. "My dad was a huge fan. He was a pianist himself. He learned how to play from his father-my grandfather-who was around when swing music was just becoming popular," she explained.

"When was that?" Lina asked.

"Well, swing music-a type of jazz style with a strong beat that really makes you want to dance-was played for a long time by the African-American community before it really became popular. My grandfather and his father were playing swing long before it was heard on the radio. When the Great Depression hit in the 1930s, many Americans were out of jobs and money. So of course they needed something to cheer them up. When people heard swing music, they forgot about their problems. The music was just so uplifting. So big bands, like the one led by Duke Ellington, started to play at famous ballrooms and theaters all across the United States and even Europe," her mom explained.

"And so that's when your grandpa was around?" Lina asked. She was so excited to learn that she had a connection to this music.

"Yes, he loved to go dancing. He even saw Duke Ellington and his band play once! His favorite song was 'It Don't Mean a Thing if It Ain't Got That Swing,'" her mother replied.

Mr. Wilson had played that song for Lina at one of her weekly classes. He had told her that it was a revolutionary piece of music and is still listened to by jazz audiences today all around the world. Lina loved the way music could be passed down through generations. She wished she could have seen Duke Ellington's band play live.

"Well, it sounds like you're interested in jazz history all of a sudden. What's making you ask all these questions?" Lina's mom asked.

Lina explained that she wanted to learn something new. She had learned enough classical music and wanted to move on to something else.

"Then start improvising!" Lina's mom told her. "Jazz is all about improvising. So many solos you hear on these records are just musicians playing what their heart feels."

Lina thought about improvising. She could hardly imagine just sitting down at the piano and playing anything that came to her mind, just piecing together notes in a way that would captivate her listeners. She remained silent for a while, concentrating hard on what she could possibly play off the top of her head.

Her mom noticed Lina's brow furrow. "The only way you're going to learn how to improvise is if you try," she told her daughter. She walked over to the piano and pulled out the bench. She patted it and looked over to the dinner table at Lina.

"Let's start now!" she said with excitement in her eyes.

Name: _____ Date: _____

1. What instrument does Lina play?

- A. the saxophone
- B. the trumpet
- C. the piano
- D. the drums

2. Throughout the story, Lina asks her parents lots of questions about jazz music. What motivates Lina's questions?

- A. Lina wants to learn something new.
- B. Lina is preparing for a music history test.
- C. Lina's homework is to interview her parents.
- D. Lina needs help with her piano homework.

3. Lina is anxious to learn a different type of music. What evidence from the passage best supports this conclusion?

- A. "Old and crinkled sheet music sat in front of her, the black notes blankly staring at her. She stared at them for so long, her vision started to blur."
- B. "She loved the piano; she always had, ever since she started playing at the age of six. But something was beginning to bother her."
- C. "Lina had been working on this piece for the past week, trying to master the tricky rhythm and memorize the movements required by her long fingers."
- D. "They were all classical music pieces, and even though Lina loved them, she was itching to try something new."

4. What conclusion can be made about Lina's family and their relationship to jazz?

- A. Lina is the first person in her family to be interested in jazz.
- B. Jazz has been important to many people in Lina's family.
- C. Lina's family used to like jazz, but now they think it is too popular.
- D. Lina is the only person in her family who doesn't like jazz.

5. What is this story mostly about?

- A. Lina learns about jazz and her family's ties to the music.
- B. Lina is tired of playing the piano and wants to learn something new.
- C. Lina learns how to play jazz piano and improvise new melodies.
- D. Lina discovers that both of her parents enjoy jazz music.

6. Read the following sentences: "Lina thought about **improvising**. She could hardly imagine just sitting down at the piano and playing anything that came to her mind, just piecing together notes in a way that would captivate her listeners. She remained silent for a while, concentrating hard on what she could possibly play off the top of her head."

As used in this sentence, what does the word "**improvising**" most nearly mean?

- A. performing from sheet music
- B. making something better
- C. inventing new music while performing
- D. playing music for an audience

7. Choose the answer that best completes the sentence below.

_____, swing music was played in African-American communities before it became popular in ballrooms across America.

- A. However
- B. Finally
- C. Obviously
- D. Initially

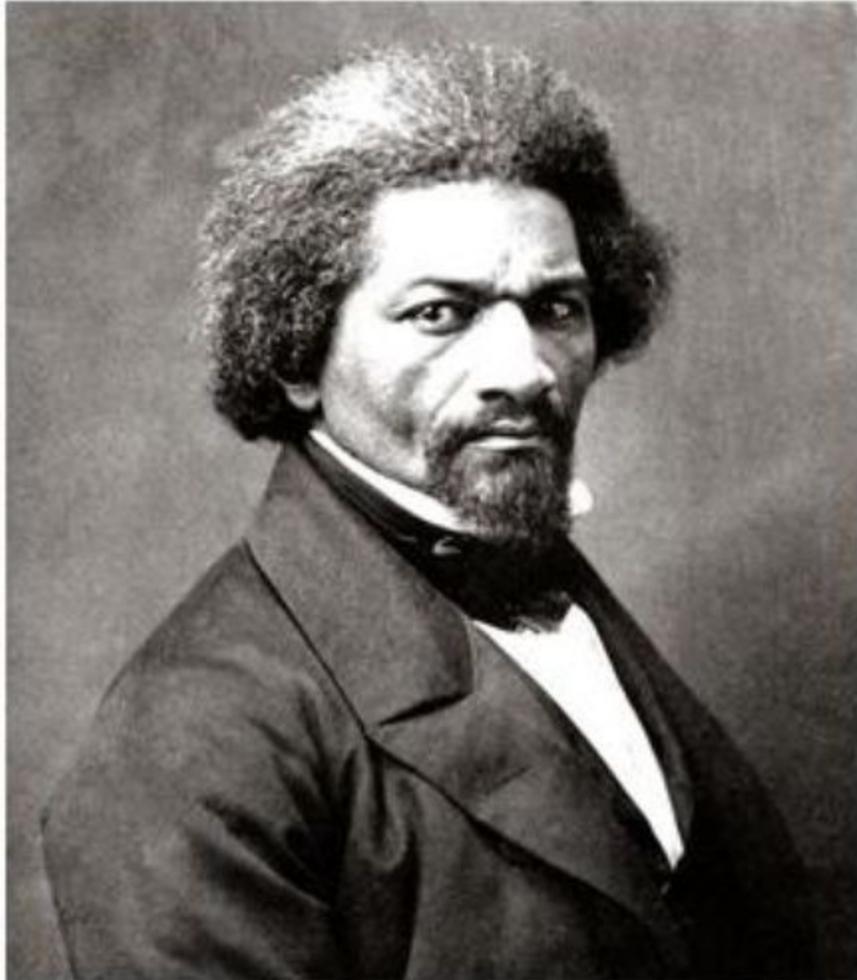
8. What is swing music?

9. Where did swing music originally come from?

10. How was music passed down through generations in Lina's family? Use information from the passage to support your answer.

The Legacy of Frederick Douglass

by ReadWorks



Frederick Douglass never knew his exact birth date. He never knew his father, either, though whispers in the halls of his slave master's home pointed to the Master himself. He only saw his mother four or five times in his life; he was forcibly separated from her at a young age. All of these things, he explains, were used as a means to keep the slave ignorant, and to keep the slave master in power.

He was born Frederick Augustus Washington Bailey in Talbot County, Maryland, in approximately 1818. He describes his early life as one typical of the American slave. He witnessed violent beatings of all slaves, regardless of their age or sex. When he was just seven years old, Douglass was sent to work for Hugh Auld, a ship carpenter, in Baltimore. Living in the city, instead of at the plantation, awarded Douglass certain freedoms. Most importantly, Auld's wife taught Douglass to read and write despite a ban on teaching slaves to read and write, until Auld eventually forbade it.

Even at a young age, Douglass understood the value of education and knowledge. Over the course of his time in Baltimore, he succeeded in learning by whatever means necessary. Sometimes he paid

hungry white children in pieces of bread for reading lessons.

When he was fifteen, Douglass was sent back to the plantation and returned to a life of hardship and struggle. He began to resist slavery in earnest, believing it to be tyrannical and unjust in nature. Shortly afterward, he was hired out to Edward Covey, a man with a reputation for "breaking" disobedient slaves. Douglass endured a year of beatings and torture that culminated in a fistfight between the two men. Covey lost the fight and never laid a hand on Douglass again. Douglass was then hired out to another landowner, William Freeland.

Under Freeland, Douglass began to teach other slaves how to read the New Testament at a weekly church service. Through education, Douglass believed, the system of slavery could be changed and eventually eradicated. Freeland did not interfere with Douglass's classes, but slave owners at nearby plantations did not approve.

Douglass believed that he, and all slaves, should be free, but he also realized that liberty could not be attained simply by hoping for it. He attempted to escape from slavery twice before he succeeded. In his final, and successful attempt, he was assisted by a freed black woman in Baltimore named Anna Murray with whom he had fallen in love.

He hatched a plan to escape when he was hired out to work at a Baltimore shipyard for wages. Murray provided him with a sailor's uniform and some money, and Douglass carried identification papers obtained from a free black seaman. He headed to a safe house in New York, and began his life as a free man.

Douglass married Murray and the two moved to New Bedford, Massachusetts. The area had a large freed black community, and Douglass joined a black church and began to get involved in the abolitionist movement. Additionally, he subscribed to William Lloyd Garrison's abolitionist journal *The Liberator*. Garrison was a like-minded individual, believing not only in the freedom of slaves, but advocating for the rights of women.

With encouragement from other abolitionists, Douglass began to share his story, and eventually came to speak at abolitionist meetings. Garrison saw him talk at a meeting and wrote about him in *The Liberator*, describing his courage and bravery. Soon Douglass became a well-known speaker on the tyrannical system of slavery.

Garrison encouraged Douglass to document his struggles as a slave. After much urging from the abolitionist community, Douglass penned his first autobiography, titled *Narrative of the Life of Frederick Douglass, an American Slave*, in 1845. Over the course of his life, Douglass would edit and expand on his autobiography, publishing *My Bondage and My Freedom* in 1855 and *Life and Times of Frederick Douglass* in 1881 (he revised the latter in 1892).

Fame for an ex-slave in abolitionary America was a dangerous thing. After the publication of his first autobiography, Douglass feared retribution and fled the country to tour Ireland and parts of Europe. Upon his return to the States, Douglass found that his views had diverged from those of Garrison.

Garrison was a more radical thinker in the abolitionist movement. He believed that the dissolution of the Union was necessary for the integration of slaves into society, and that the Constitution was, by its very nature, pro-slavery. Douglass, on the other hand, believed that the crumbling of the Union would isolate and alienate slaves in the South.

In addition to speaking against slavery, Douglass enriched the lives of black Americans in other ways, too. He encouraged education, and even counseled Abraham Lincoln during the Civil War, recruiting northern blacks for the Union army.

By the time the Civil War began, Douglass had become one of the most famous black men in America. Despite conferring with Lincoln about the abolition of slavery, Douglass ultimately supported Lincoln's opponent in the 1864 election, John C. Fremont. Although Lincoln's Emancipation Proclamation declared the freedom of all slaves in Confederate territory, Douglass did not approve of Lincoln's decision not to endorse suffrage, or voting rights, for black Americans.

Following the end of the Civil War, the abolition of slavery with the ratification of the Thirteenth Amendment to the Constitution, and Lincoln's death, Douglass continued to improve the rights of both blacks and American women. He believed that despite the abolition of slavery, "the wrongs of my people were not ended."

He held a number of significant and influential positions during this period. He was appointed to the District of Columbia's city council and served as a presidential delegate for the Republican party of New York. He became the first black person nominated as vice president of the United States, as Victoria Woodhull's running mate, in 1872. He was nominated without his knowledge or consent.

Douglass became one of the most influential and successful black men of his time. His life, speeches, and written works speak to the strife associated with being a black American before and after abolition.

His message guided many black men and women long after his death. He insisted that African-Americans must "make the best of both worlds-but to make the best of this world first because it comes first," and his legacy continues even to this day.

Name: _____ **Date:** _____

1. According to the text, what had Douglass become by the time the Civil War began?

2. The text describes the sequence of key events in Frederick Douglass's life. When did Douglass escape slavery?

3. Douglass understood the value of education and knowledge, even when he was young. What evidence from the text supports this statement?

4. Why was Douglass probably sent to work for Edward Covey, a man who was known for "breaking" disobedient slaves?

5. What is this text mostly about?

6. Read the sentences and answer the question.

"Garrison encouraged Douglass to document his struggles as a slave. After much urging from the abolitionist community, Douglass penned his first autobiography, titled 'Narrative of the Life of Frederick Douglass, an American Slave,' in 1845."

What does the word "document" mean as used in the text?

7. What word or phrase best completes the sentence?

Douglass believed that education was important; _____, he taught other slaves how to read the New Testament at a weekly church service.

8. Identify two ways Douglass fought for the rights of slaves before and during the Civil War.

9. Why did Frederick Douglass write his first autobiography?

10. Even at a young age, Frederick Douglass understood the value of education and knowledge. How did this understanding impact his life? Use information from the text to support your answer.

Benjamin Franklin: The Ultimate Solution Creator

by ReadWorks



Benjamin Franklin is credited with an array of inventions and accomplishments. Among these are the repeal of Britain's Stamp Act, bifocals, the lightning rod, the Franklin stove, the reform, and creation of the original U.S. postal system. All are notable for being solutions, in the 1700s, to everyday problems faced by Franklin's peers or to bigger social and political issues (like the American colonies' lack of representation during Britain's rule).

When faced with some kind of roadblock or trouble, Franklin was particularly adept at finding a way around it. Beyond his keen intuition that facilitated his discoveries and solutions, Franklin had an exceptional intelligence. This was evident in the way he approached problems—the man was famous for being economical, community-driven, and supportive of education and hard work. He didn't come from a wealthy family and was well known for living simply, yet smartly. Partly because of this straightforward, but thorough approach to daily life, he was better able to invent and create or improve solutions to some of the era's problems.

Take, for example, the trouble of having two different kinds of poor eyesight. Most people have only

one vision problem, at most, and during Franklin's time, eyeglasses to help nearsightedness or farsightedness already existed. Some people, however, experience both kinds of vision deficiencies, whose scientific names are presbyopia (farsightedness) and myopia (nearsightedness). To address both at the same time, Franklin created dual-lens eyeglasses, which offered a bottom half to correct one's vision of close-by objects and words, and a top half enabling the same viewer to see far away. He did this by cutting the two different necessary lenses in half and combining them. This solution also made it possible to tailor the prescription of each lens to accurately correct the vision of the wearer.

It's not a perfect system; to this day, even if bifocals have improved, new users can experience headaches or dizziness when first wearing them. However, those in need of bifocals typically acclimate to the two-lens system (and in 1955, an optician named Irving Rips further refined the solution, by creating seamless bifocals from one lens, improving upon the original design). The glasses meet their wearer's vision needs.

Franklin also addressed common problems. During his lifetime (1706-1790), fireplaces and stoves were the only way to heat one's home. Burning wood or scrap produces smoke-not always what you want filling your house! To combat the issues of much smoke filling homes and inefficient heating, Franklin created a new system, called the Franklin stove. Essentially, it was an improved fireplace, meant to offer more heat and less smoke than the fireplaces that came before it. To do this, Franklin put something called a baffle (a hollow duct through which cold air entered and hot air exited, warming the room) at the back of his stove. The baffle was open at the bottom and had two holes at the top. Cold air sinks and hot air rises, so the underside of the baffle was meant to take in cold air from the room, heat it with the fire's flames, and release the heated air back into the room. Franklin's other adjustment was the attachment of an inverted siphon to the baffle. This inverted siphon was a U-shaped duct that he thought would carry smoke away from the room and up a chimney.

Interestingly, Franklin's stove wasn't particularly successful. It addressed two of the main heating problems of the day-inefficiency and an excess of smoke-but it didn't actually work that well. The inverted siphon only functioned correctly if the fire burned consistently, a factor that couldn't be guaranteed. However, given the problems and the way people built their homes in 1741, when Franklin invented his stove, the equipment he came up with is viewed as a solution that addressed the problems he was concerned with.

Besides dual-purpose eyeglasses and a less smoky fireplace, Franklin is also credited with inventing the lightning rod. This is perhaps his most famous invention, and with good reason. Before it, lightning striking one's home could have disastrous consequences, especially since houses were generally made from wood. The invention came about as a way for Franklin to test a hypothesis. He believed that lightning was related to electricity-a common piece of knowledge now, but new in 1750, when he invented the lightning rod.

By understanding that lightning tended to hit the highest, nearest point, Franklin determined that putting a rod on the top of a building meant lightning would be more likely to hit the rod than the house itself. Franklin's lightning rod connected to a wire that ran down through the house and into the ground, where it was attached to a ground rod. Both rods were made from metal, which Franklin theorized would conduct the electricity of the lightning. By moving from the first rod down the length of the wire, the lightning's energy could be safely transmitted into the ground, where it would no longer pose a threat to one's home or body.

Franklin didn't just deal with objects as solutions to problems. He was the first known creator of a "pros and cons" list, which is an invention to assist with decision-making. In a 1772 letter to a friend, he laid out how he made difficult decisions: he divided a piece of paper into two columns, with one headed "pros" and the other "cons." He would think about the pros and cons of a particular decision for several days, writing them down whenever they came to him. When no more occurred to him, he would go through each side of the list, assigning a weight to every point. Then he would strike out a pro for every con. At the end, he would see if the balance was on one side or the other, think about the problem for another day, and then make a decision.

This kind of systematic approach to decision-making was probably quite useful for Franklin's overall approach to making scientific inquiries, which he applied in his research too. For instance, he was very interested in population growth, particularly in the American colonies. In the 1700s, the colonies' population was exploding, but no one knew by how much. After studying the growth for several decades, beginning in the 1730s, Franklin published "Observations on the Increase of Mankind" in 1755. This essay explained that rapid population growth usually accompanied an abundance of food supplies. At the time, the Americas had the fastest population growth anywhere in the world and also had a huge amount of farmland, which meant they could easily nurture a growing population. Besides enlightening his readers as to why the colonies were experiencing a surge in citizens, he was also able to explain how much their area was growing. At the time he published "Observations on the Increase of Mankind," based on his two decades of observation, Franklin theorized that the population of the Americas was set to double every 20 years.

During his lifetime, Franklin was also put in charge of systems affecting the population as a whole. He tended to improve them. In 1775, he was appointed the first Postmaster General of the American colonies. When he began the job, a letter traveling from New York to Philadelphia could take two weeks, even though the distance was only 109 miles. To get a letter safely overseas, a sender would send copies on several different ships, with the hope that at least one of them would make it to the recipient. Post offices were very informal—they could be anything from a town's inn to its local pub.

As Postmaster General, Franklin instituted several solutions that made sending and receiving mail faster and more reliable. First, he toured all the major post offices and the routes connecting them, so he could learn more about the system as a whole. Based on his observations, he dictated more direct routes between these post offices and had milestones set up on the roads used by mail carriers, so they could more easily follow the correct path. (Roads were very poorly marked in the 1700s.) Second, he specifically improved service between New York and Philadelphia, the colonies' two biggest, most important cities, by having the mail wagon travel between the cities during the night, as well as the day. Thus more mail was able to travel faster. Lastly, he instituted a standardized chart for mail that made clear what it should cost to mail a letter or package, based on its weight and how far it was traveling.

In an unusual move, Franklin never patented a single one of his designs or inventions, which meant other people were free to copy them, improve upon them, or re-create them. He resisted hoarding his ideas because he truly believed that people benefitted from one another's inventions. It gave society an advantage if new designs and inventions were available to all, because that way, more minds could work on them in order to make them better. By coming up with devices and systems that addressed certain problems, but refraining from trademarking his inventions, Franklin paved the way for others to continually improve on his initial solutions.

Name: _____ Date: _____

1. According to the text, what was Benjamin Franklin's most famous invention?

- A. bifocal glasses
- B. the Franklin stove
- C. the lightning rod
- D. pros and cons lists

2. How does the author describe Benjamin Franklin?

- A. from a wealthy, sophisticated family
- B. lazy, selfish, and uncharitable
- C. unmotivated and lacking in creative vision
- D. economical, community-driven, and supportive of education

3. The bifocal lens system that Benjamin Franklin created was not perfect. What evidence from the passage supports this conclusion?

- A. "Franklin created dual-lens eyeglasses, which offered a bottom half to correct one's vision of close-by objects and words, and a top half enabling the same viewer to see far away."
- B. "New users can experience headaches or dizziness when first wearing them."
- C. "This solution also made it possible to tailor the prescription of each lens to accurately correct the vision of the wearer."
- D. "He did this by cutting the two different necessary lenses in half and combining them."

4. Why wasn't the Franklin stove successful?

- A. The stove didn't reliably reduce the amount of smoke in the room.
- B. The stove didn't properly heat the room.
- C. There were multiple accidents where the stove caught fire.
- D. The stove increased the amount of smoke given off.

5. What is this passage mainly about?

- A. population growth in the American colonies
- B. the invention of the lightning rod
- C. Benjamin Franklin and his many inventions
- D. the U.S. patent system

6. Read the following sentences: "When faced with some kind of roadblock or trouble, Franklin was particularly **adept** at finding a way around it. Beyond his keen intuition that facilitated his discoveries and solutions, Franklin had an exceptional intelligence."

What does "**adept**" mean?

- A. quick
- B. stubborn
- C. impatient
- D. skillful

7. Choose the answer that best completes the sentence below.

Benjamin Franklin was a brilliant inventor, _____ he never patented any of his designs.

- A. also
- B. yet
- C. thus
- D. namely

8. What hypothesis was Benjamin Franklin trying to test with the invention of the lightning rod?

9. Benjamin Franklin greatly improved the U.S. Postal System during his time as Postmaster General. What evidence from the text supports this conclusion?

10. Why was Benjamin Franklin "the ultimate solution creator"? Support your argument with examples from the text.

Item #2

Instructions for Student

Read the following outline for an argumentative essay. Note possible areas of revision. Then, read each question and choose the best answer to improve the outline.

"Dream Vacation: Alaska or Hawaii?"

1. **Introduction**

A. **Claim:** Alaska is better than Hawaii.

2. **Body Paragraphs:**

A. Both Hawaii and Alaska are remote, making them equally difficult to get to for most Americans.

1. The distance from Florida to Hawaii is about 4,600 miles; from Florida to Alaska is about 3,800 miles.

2. A flight from Tampa to Hawaii costs at least \$700 and takes at least 12 hours. A flight from Tampa to Alaska costs at least \$600 and takes at least 10 hours.

B. Counterclaim: The beaches of Hawaii make it the best choice for a family vacation.

Response: Alaska offers unique sights and experiences that one can't find anywhere else in the United States.

1. The Wrangell-St. Elias National Park is 13.2 million acres and is the largest park in the U.S.

C. Tourism

1. According to the *LA Times*, 9.3 million people visited Hawaii in 2017. According to Alaska's Division of Economic Development, 2.24 million people visited Alaska in 2017.

3. **Conclusion:**

Restate the claim and reasons and evidence.

1. The writer needs a more specific claim. Which claim **BEST** fits with the outline?

- A. For those looking for a unique experience, Alaska is the best choice for a family vacation.
- B. Alaska and Hawaii might seem very different at first, but they actually have a lot in common.

2. The writer would like to explain part C so that it is more clear and logical.

Which sentence is the **BEST** revision for the point in part C?

- A. It is a long trip for almost anyone to get to Hawaii or Alaska, so it does not make sense why so many people choose to go to Hawaii.
- B. Alaska is far less touristy and crowded than Hawaii during the summer months

3. The writer wants to add the following reason to the Supporting Reasons and Evidence section:

Day cruises offer close-up views of glaciers and fjords, as well as wildlife sightings of whales, seals, bears, mountain goats, and moose.

What is the **BEST** position for this reason?

- A. in part B
- B. in part C

4. Which organizational structure would be the **BEST** to use?

- A. Problem and solution
- B. Compare and contrast

Item #2

Instructions for Student

Read the following passage from an argumentative essay about tattoos in the workplace, noting areas of possible revision. Then, read each question and choose the best revision.

"Freedom of Ink Expression"

(1) Some employers won't hire workers with visible tattoos. (2) They claim that tattooed employees create an unprofessional environment. (3) They believe that hiring employees with tattoos would reflect poorly on their business. (4) This thinking is a form of discrimination that should not be tolerated.

(5) According to the market research company Statista, about 40 percent of U.S. adults under age 70 have tattoos. (6) For younger adults, the percentage is much higher. (7) Discriminating against people who have tattoos you can see is silly, because getting a tattoo is totally normal. (8) As long as a visible tattoo does not display objectionable content, the person with the tattoo should be eligible for any type of job opening.

(9) Tattoos are part of people's personal identities. (10) If employers reject a tattoo, they are also rejecting the person who has it. (11) Our country has become great by being inclusive. (12) By hiring both people with and without tattoos, company's will have the greatest pool of talent to choose from. (13) More and more organizations become accepting of tattoos. (14) People with tattoos can become fully accepted as human beings.

1. Which should the writer change in sentence one to make the style more formal?

- A. Some employers won't hire workers with tattoos you can see.
- B. Some employers will not hire workers with visible tattoos.

2. The writer knows something is off about the style in sentence 7. What should the writer change to make the style more formal?

- A. The writer should look at his word choice and make sure that he is picking formal words that are not slang.
- B. The writer should use technical language so that the reader believes he knows what he is talking about.

3. Which sentence in the last paragraph has a punctuation error?

- A. Sentence 11
- B. Sentence 13

4. The writer wants to vary the sentence length in the last paragraph. How can the writer revise the paragraph to change the sentence lengths?

- A. The writer can add an independent clause about inappropriate tattoos to sentence 11.
- B. The writer can combine sentences 13 and 14 into a complex sentence using a conjunction.



Your Turn

Item #1

Instructions for Student

Sort the transition words and phrases by the relationship they signal.

Available Options (6 of 6)

next

including

since

on the contrary

for instance

similarly

To Show Time Sequence

To Introduce Examples

To Show Comparison or Contrast

CA-CCSS: [CA.W.8.1c](#)

Item #2

Instructions for Student

Read the following excerpt from a body paragraph from the first draft of a writer's argumentative essay. The student is arguing that his school should get rid of vending machines. Note possible areas of revision. Then read each question and choose the best response.

(1) The vending machines contain nothing but junk food. (2) The ones on the second floor sell five kinds of candy and seven kinds of chips. (3) Seventy percent of Americans are overweight. (4) This kind of food contributes to our country's obesity epidemic. (5) Getting rid of vending machines will not completely prevent kids from eating junk food; it is a step in the right direction. (6) We must start somewhere, and getting rid of vending machines is the easiest way to do that.

1. The student wants to add a transition to clearly introduce anecdotal evidence in support of his claim.

What transition could be added to the beginning of sentence 2?

- A. Meanwhile,
- B. For instance,

2. The writer realizes that the relationship between sentences 3 and 4 is not as clear as it could be.

What is the most effective revision of these two sentences?

- A. Seventy percent of Americans are overweight, but this is exactly the kind of food that contributes to our country's obesity epidemic.
- B. Seventy percent of Americans are overweight, and this is exactly the kind of food that contributes to our country's obesity epidemic.

3. The writer wants to add a transition to introduce a counterclaim in sentence 5.

Which transition could be added to accomplish this goal?

- A. Although getting rid of vending machines will not completely prevent kids from eating junk food, it is a step in the right direction.
- B. Likewise, getting rid of vending machines will not completely prevent kids from eating junk food; it is a step in the right direction.

4. The writer wants to show that he is summarizing his claim in Sentence 6.

Which transition could be added to accomplish this goal?

- A. In short, we must start somewhere, and getting rid of vending machines is the easiest way to do that.
- B. Next, we must start somewhere, and getting rid of vending machines is the easiest way to do that.

CA-CCSS:  CA.W.8.1c



Your Turn

Item #1

Instructions for Student

Read each of the argumentative essay prompts below. Then drag and drop the thesis statements to show which ones are ineffective and which ones are effective based on your understanding of thesis statements for argumentative essays.

Available Options (6 of 6)

- ☰ We should build public libraries to address the specific needs of the 21st century, like the need for internet access, public meeting spaces, and job resources.
- ☰ Schools should rely less on detentions for discipline and focus instead on improving behavior through academic, emotional and social support.
- ☰ Students should be required to take four years of math in high school because it helps them develop number and problem solving skills.
- ☰ Math is an important subject for all students because there are many different kinds of math to learn in high school.
- ☰ Schools giving less detentions is a good idea that would have many benefits to students, faculty, and staff alike. I strongly support fewer detentions.
- ☰ Public libraries, while important, are not as useful in modern society as they once were. Ways of reading have changed, and fewer people will need libraries in the 21st century.

Prompt	Ineffective	Effective
Should students be required to take four years of math in high school?		
Should we build public libraries for the 21st century?		
Should schools rely less on detentions for disciplining students?		

CA-CCSS: [CA.W.8.1a](#)

Item #2

Instructions for Student

Read the following prompt and thesis statements. Note possible areas of revision. Then read each question and choose the best revision.

Prompt: Should students in your grade have a “free period” during the school day to spend as they wish?

Thesis Statement 1

Students in my grade should have a “free period” during the school day to spend as they wish.

Thesis Statement 2

Students need more time so they can relieve stress and build social skills.

Thesis Statement 3

Having a “free period” would lead to wasted time spent on phones or computers.

Thesis Statement 4

Students in my grade should not have a “free period” because there would be negative consequences.

1. The writer of Thesis Statement 1 realizes that she forgot to preview her argument.

Which of the following thesis statements is the best revision to help her achieve that goal?

- A. Students in my grade should have a “free period” during the school day to spend as they wish because it would help students get ahead on their schedule and reset their focus.
- B. Students in my grade should have a “free period,” or a regularly scheduled block of time free of other activities, during the school day to spend doing what they want.

2. The writer of Thesis Statement 2 wants to make sure his claim directly addresses the prompt.

Which of the following thesis statements is the best revision to help him achieve that goal?

- A. Students in my grade should have a “free period” during the school day so that they can relieve stress and build social skills.
- B. Students need at least 45 minutes a day so they can relieve stress and build social skills.

3. The writer of Thesis Statement 3 wants to make his claim clearer.

Which of the following thesis statements is the best revision to help him achieve that goal?

- A. Having a “free period” would lead to wasting precious school time on phones or computers.
- B. Students in my grade should not have a “free period” because it would lead to wasted time spent on phones or computers.

4. The writer of Thesis Statement 4 wants to add details that reveal the reason for her opinion.

Which of the following thesis statements is the best revision to help her achieve that goal?

- A. Students in my grade should not have a “free period” because it would encourage poor time management.
- B. Students in my grade should not have a “free period” because there would be negative consequences for students.

Name _____ Period _____ Score _____

Math 8 - "Expressions and Properties"

Evaluate each expression.

1) $(-7) - (-18)$

2) $10 - 17$

3) $(-1) - (-2) + (-14)$

4) $25 - 14 - 22$

5) $12 - 7 + 21 - 8$

6) $14 - (-6) + (-8) - 9$

7) $(-19.2) + 7.5 + 3.07 + (-0.7)$

8) $(-17.6) + 14.1 - 5.84 - (-21.7)$

9) $\left(-\frac{19}{10}\right) + \frac{3}{2}$

10) $10\frac{4}{5} - 10\frac{17}{18}$

11) $\frac{7}{8} - \frac{1}{2} - 7\frac{7}{12}$

12) $20 + \left(-1\frac{1}{6}\right) - 3\frac{3}{4}$

Find each product.

13) $(-5)(8)(7)$

14) $(-8)(3)(-3)$

15) $(-8)(-4)(-3)(5)$

16) $(4)(-10)(6)(-9)$

17) $(-9.9)(4)$

18) $(-4.1)(-1.7)$

19) $\left(1\frac{3}{10}\right)\left(-\frac{1}{8}\right)$

20) $\left(3\frac{2}{7}\right)\left(-\frac{2}{5}\right)$

Find each quotient.

21) $\frac{112}{-8}$

22) $\frac{-65}{-13}$

23) $\frac{-8.7}{2.9}$

24) $\frac{10.2}{-2}$

$$25) 5\frac{5}{6} \div -2$$

$$26) \frac{-5}{3} \div -2\frac{1}{5}$$

Simplify each expression.

$$27) 3 + x - 5x$$

$$28) 1 - 7k + 1 - 6k$$

$$29) -3(3x + 3) + 9x$$

$$30) -1 + 8(8b - 2)$$

$$31) 9.1m - 0.8m$$

$$32) 1 - 1.2n - 6.5n - 2.3$$

$$33) \frac{7}{11}n + \frac{1}{2}n$$

$$34) -\frac{7}{2}x + \frac{9}{10}x$$

$$35) \frac{1}{10}\left(\frac{15}{4}r + 5\right)$$

$$36) \frac{3}{2}\left(\frac{5}{3}n - 5\right)$$

$$37) -3(9.6 + 6.6n) + 8.1(8n - 8.4)$$

$$38) -0.3(1.9x + 6.6) + 8.2(1 + 1.8x)$$

39) $\frac{15}{4}\left(\frac{1}{4}x + \frac{1}{5}\right) - \left(-\frac{3}{2}x + \frac{43}{8}\right)$

40) $\frac{5}{3}\left(\frac{13}{8}v - 2\right) - \frac{1}{3}\left(v - \frac{3}{4}\right)$

Create an equivalent expression using the property given below.

41) Commutative Property:
 $3c + 8$

42) Associative Property:
 $(v + 5) + w$

43) Distributive Property:
 $4c + 6$

44) Identity Property:
 18

45) Inverse Property:
 1

Create 3 expressions equivalent to the following.

46) $24w - 16$

47) $4x + 2y + 14$

Evaluate the following expression.

48) $6a - 2b + 0.5c + 8$,
for $a = 7$, $b = \frac{1}{2}$, $c = 12$

Name the terms, coefficients and constant for the following expression.

49) $-5a + 3b - \frac{2}{3}c - 1.5$

Trimester 1 REVIEW

Name: Gary Granger

#1 Points possible: 1. Total attempts: 3

What value of x will make the equation true?

$$3 - 2(12x - 6) = -8x - 6 + 5x$$

- One solution: $x =$ _____
 - No solution
 - Infinite number of solutions
-

#2 Points possible: 1. Total attempts: 3

What value of x will make the equation true?

$$\frac{1}{2}(-2x + 24) - x = 0.9 - (x + 2)$$

- One solution: $x =$ _____
 - No solution
 - Infinite number of solutions
-

#3 Points possible: 1. Total attempts: 3

Determine how many solutions each linear equation will have.

$-x + 4 = -11x - 12$	1 solution <input type="radio"/>	No solution <input type="radio"/>	Infinitely many solutions <input type="radio"/>
$x + 2 = x$	1 solution <input type="radio"/>	No solution <input type="radio"/>	Infinitely many solutions <input type="radio"/>
$2 - 12x + 1 = -8x - 4x + 3$	1 solution <input type="radio"/>	No solution <input type="radio"/>	Infinitely many solutions <input type="radio"/>
$2(2x - 5) = 4x - 8$	1 solution <input type="radio"/>	No solution <input type="radio"/>	Infinitely many solutions <input type="radio"/>

#4 Points possible: 1. Total attempts: 3

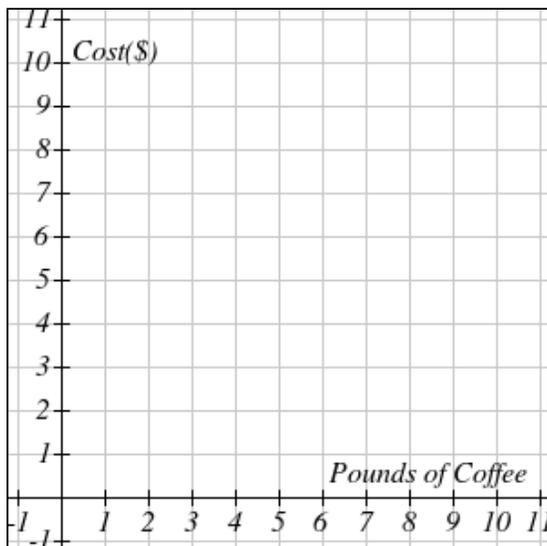
Complete the equations below to satisfy the given outcome.

**** You do NOT need to enter the x variable ****

Create an equation with one solution.	$-8x + 9x + 6 + 3x = \underline{\quad} x + \underline{\quad}$
Create an equation with infinitely many solutions.	$-8x + 9x + 6 + 3x = \underline{\quad} x + \underline{\quad}$
Create an equation with no solution.	$-8x + 9x + 6 + 3x = \underline{\quad} x + \underline{\quad}$

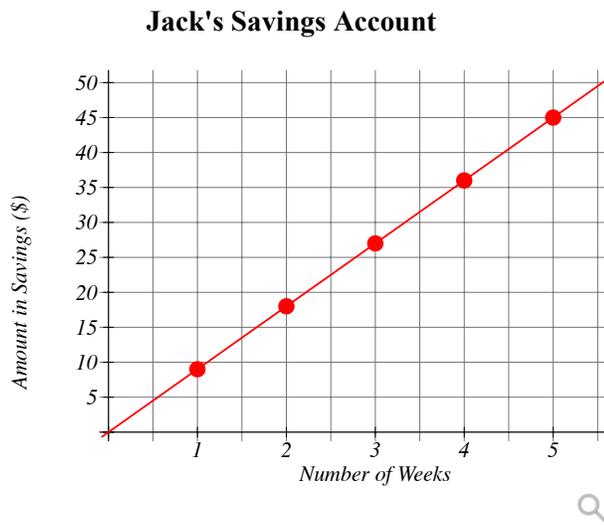
#5 Points possible: 1. Total attempts: 3

A bag of coffee costs \$5 per pound. Draw a ray that shows the proportional relationship between the number of pounds purchased and the total cost.



#6 Points possible: 1. Total attempts: 3

This graph shows a proportional relationship between the amount of money in Jack's savings account and the number of weeks Jack has been saving money.



Select the statement that correctly reflects what is shown in the graph.

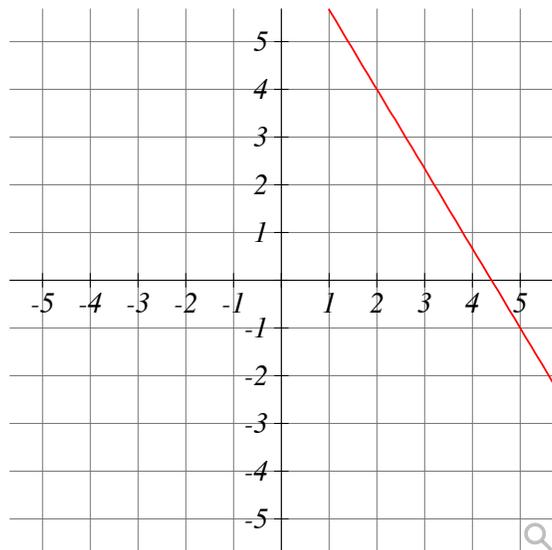
- The rate of change is 9, so Jack's savings rate is \$9 every week.
 - The rate of change is 10, so Jack's savings rate is \$10 every week.
 - The rate of change is 10, so Jack's savings rate is \$1 every 10 weeks.
 - The rate of change is 9, so Jack's savings rate is \$1 every 9 weeks.
-

#7 Points possible: 1. Total attempts: 3

Find the slope of the line in the graph below.

$m =$ _____

*** If slope is zero, enter "0". If slope is undefined, enter "undefined". ***



#8 Points possible: 1. Total attempts: 3

Find the slope of the line that passes through the two given points.

$m =$ _____

*** If slope is zero, enter "0". If slope is undefined, enter "undefined". ***

(- 14, 16) & (2, 22)

#9 Points possible: 1. Total attempts: 3

Find the slope of the line for the linear relation modeled in the table below.

$m =$ _____

*** If slope is zero, enter "0". If slope is undefined, enter "undefined".***

x	y
0	-1
4	0
8	1
12	2
16	3

#10 Points possible: 1. Total attempts: 3

Solve. [Calculator](#)

$$11x + 15 - x = 10x + 15$$

- One solution: $x =$ _____
- No solution
- Infinite number of solutions

#11 Points possible: 1. Total attempts: 3

Identify the rate of change and initial value for the linear situation modeled below.

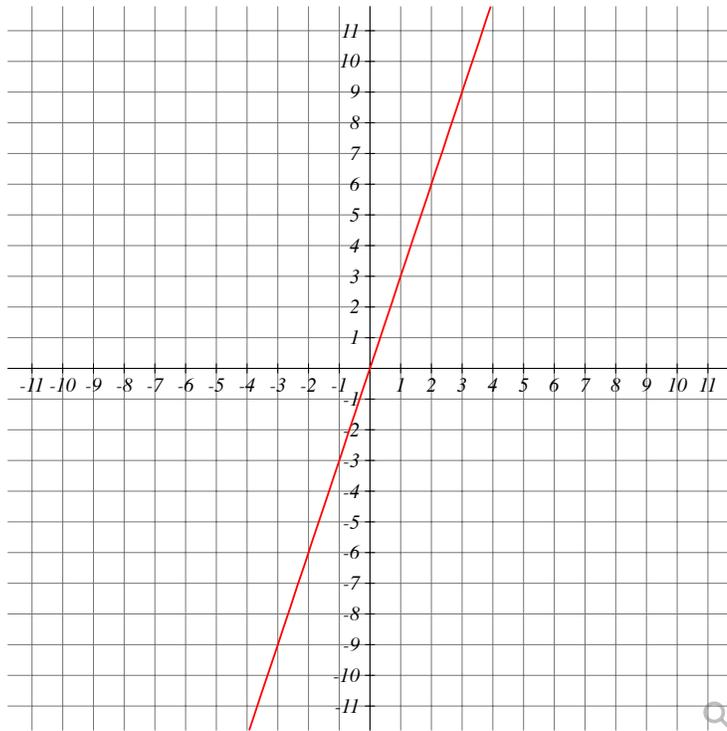
x	y
0	0
2	2
4	4
6	6
8	8

Rate of change: _____

Initial Value: _____

#12 Points possible: 1. Total attempts: 3

Identify the rate of change and initial value for the linear situation modeled below.



Rate of change: _____

Initial Value: _____

#13 Points possible: 1. Total attempts: 3

Identify the rate of change and initial value for the linear situation modeled below.

$$y = 2x + 3$$

Rate of change: _____

Initial Value: _____

#14 Points possible: 1. Total attempts: 3

Identify the rate of change and initial value for the linear situation modeled below.

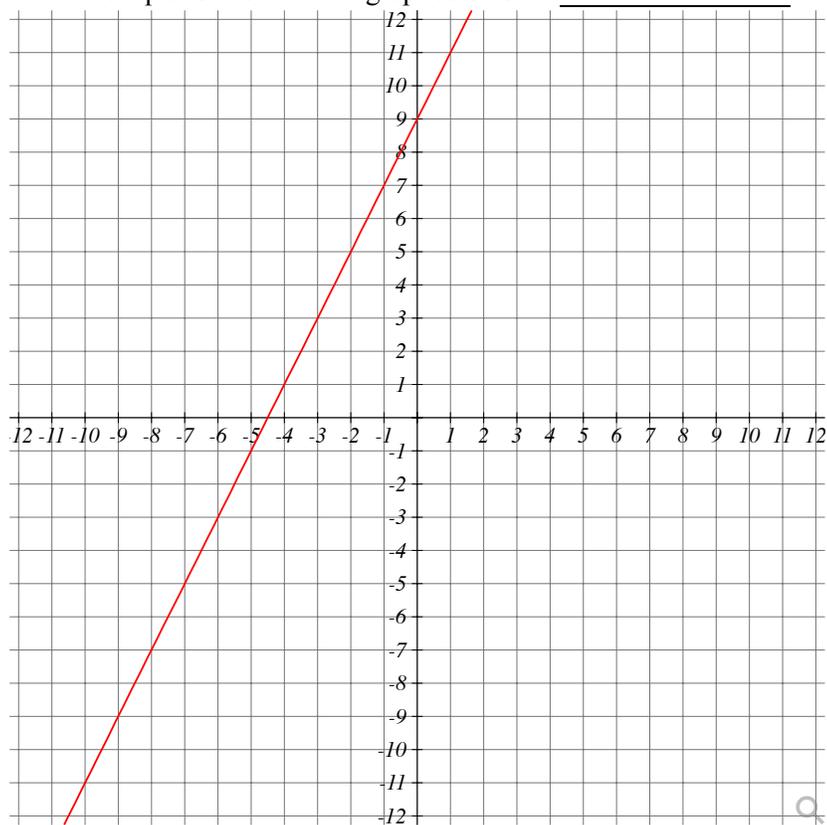
$$y = \frac{1}{5}x + 8$$

Rate of change: _____

Initial Value: _____

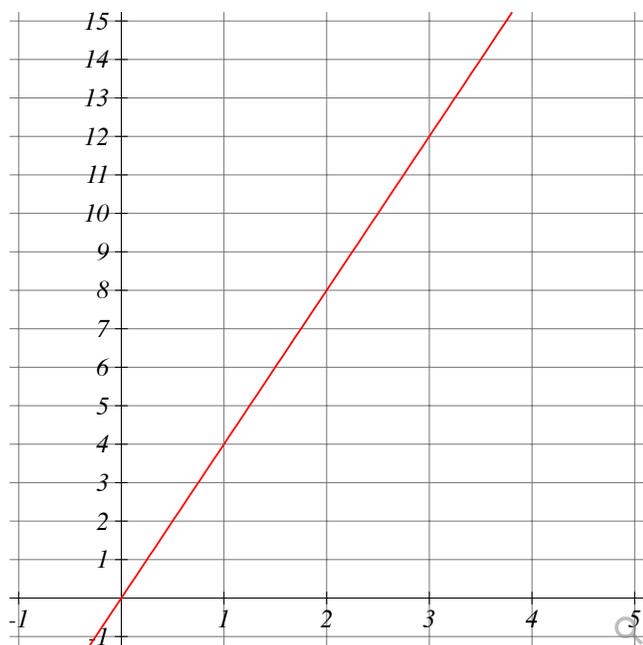
#15 Points possible: 1. Total attempts: 3

Write the equation for the line graphed below.



#16 Points possible: 1. Total attempts: 3

Enter the equation of the line in the form $y = mx$ where m is the slope.

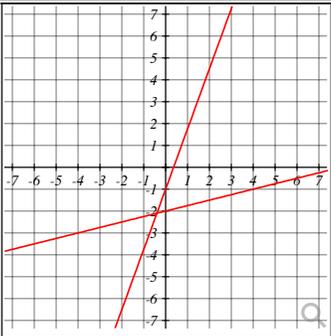
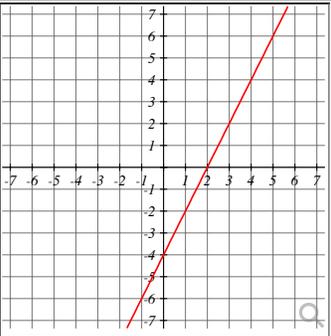
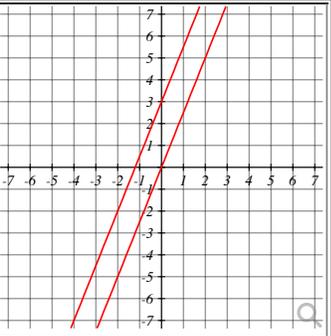


Unit 4 Review

Name: Gary Granger

#1 Points possible: 1. Total attempts: 0

Determine how many (if any) solutions each system below has.

		
<p><input type="radio"/> One solution</p> <p><input type="radio"/> No solution</p> <p><input type="radio"/> Infinitely many solutions</p>	<p><input type="radio"/> One solution</p> <p><input type="radio"/> No solution</p> <p><input type="radio"/> Infinitely many solutions</p>	<p><input type="radio"/> One solution</p> <p><input type="radio"/> No solution</p> <p><input type="radio"/> Infinitely many solutions</p>

#2 Points possible: 1. Total attempts: 0

A student correctly solved a system of linear equations on a worksheet. The last step of his work for the problem is shown below. State whether the system has one solution, no solution, or infinitely many solutions.

$$x = -1$$

- One solution
- No solution
- Infinitely many solutions

#3 Points possible: 1. Total attempts: 0

A student correctly solved a system of linear equations on a worksheet. The last step of his work for the problem is shown below. State whether the system has one solution, no solution, or infinitely many solutions.

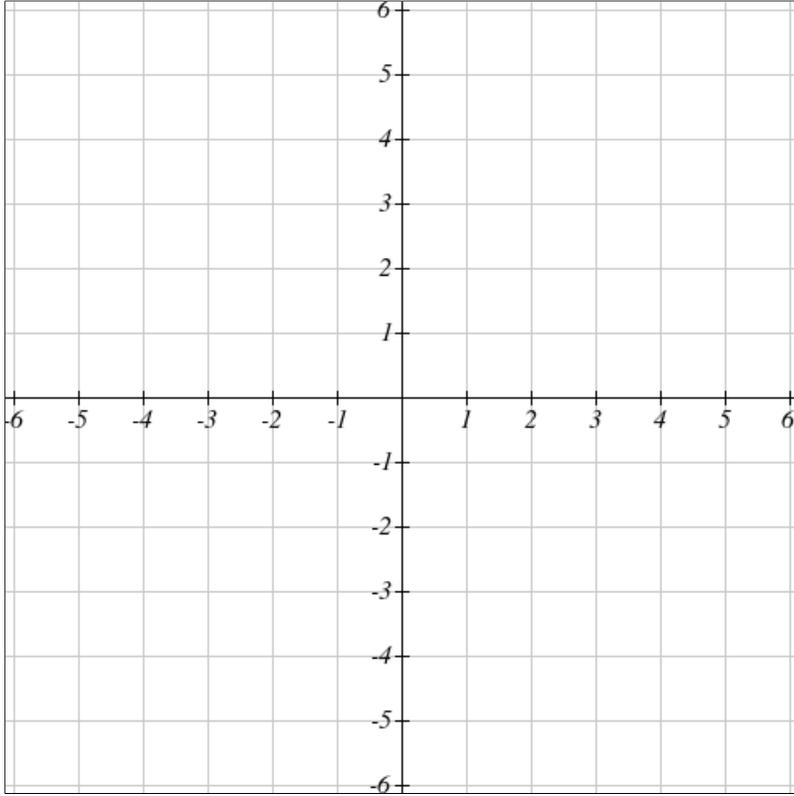
$$4 = 6$$

- One solution
- No solution
- Infinitely many solutions

#8 Points possible: 1. Total attempts: 0

Solve the system of equations by graphing:
$$\begin{cases} y = 2x - 1 \\ y = \frac{1}{2}x + 2 \end{cases}$$

Solution = _____

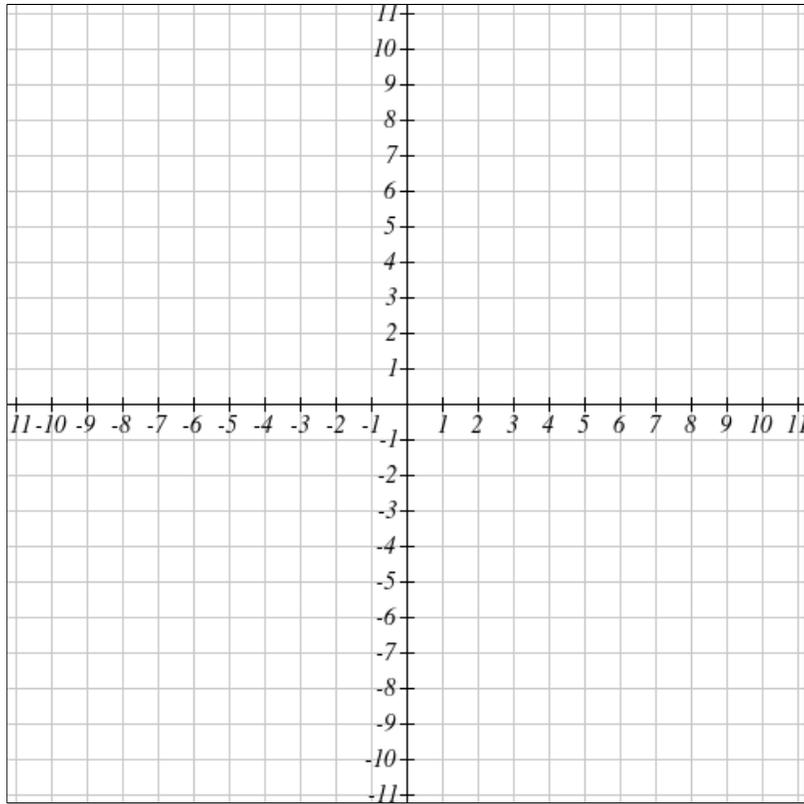


#9 Points possible: 1. Total attempts: 0

Solve the system of equations by graphing:

$$\begin{cases} y = -2x - 6 \\ y = -\frac{3}{2}x - 3 \end{cases}$$

Solution: _____



#10 Points possible: 1. Total attempts: 0

Solve the system of equations:

$$\begin{cases} y = -2x - 3 \\ -4x + 4y = 12 \end{cases}$$

Solution: (____, ____)

#11 Points possible: 1. Total attempts: 0

Solve the system of equations:

$$\begin{cases} y = -1x + 4 \\ y = 3x - 8 \end{cases}$$

Solution: (____, ____)

#12 Points possible: 1. Total attempts: 0

[Calculator](#)

Solve the system of equations:

$$\begin{cases} 3x + 5y = -6 \\ -3x - 4y = 3 \end{cases}$$

Solution: (____, ____)

#13 Points possible: 1. Total attempts: 0

[Calculator](#)

Solve the system of equations:

$$\begin{cases} 6x + 2y = -30 \\ 5x + 6y = -38 \end{cases}$$

Solution: (____, ____)

#14 Points possible: 1. Total attempts: 0

[Calculator](#)

Solve the system of equations:

$$\begin{cases} 2x + 4y = 8 \\ -5x + 6y = 44 \end{cases}$$

Solution: (____, ____)

#15 Points possible: 1. Total attempts: 0

Darius is buying flowers for Amy. He picks roses and lilies for the bouquet and buys a total of 26 flowers. Roses cost \$4, lilies cost \$2, and he spent a total of \$76. How many of each flower are in the bouquet?

Number of roses: ____

Number of lilies: ____

#16 Points possible: 1. Total attempts: 0

An elementary teacher challenges his class with a riddle: "Two numbers sum to 80. The second number is 8 more than three times the first number." What are the two numbers?

The first number: ____

The second number: ____

#17 Points possible: 1. Total attempts: 0

A farmer saw some chickens and pigs in a field. He counted 61 heads and 180 legs. Determine exactly how many chickens and pigs he saw.

How many chickens? ____

How many pigs? ____

Review #6

Name: Gary Granger

#1 Points possible: 2. Total attempts: 1

Simplify. Leave in x^m exponential form.

$$4^2 \cdot 4^5$$

#2 Points possible: 2. Total attempts: 1

Simplify. Leave in x^m exponential form.

$$\frac{8^9}{8^3}$$

#3 Points possible: 1. Total attempts: 1

$$\frac{3^5 \cdot 3^3}{3^6}$$

What is the simplified version of the expression in x^m exponential form? _____

#4 Points possible: 1. Total attempts: 1

$$\frac{2^4 \cdot 2^{-6}}{2^{-3} \cdot 2^{-5}}$$

What is the simplified version of the expression in x^m exponential form? _____

#5 Points possible: 2. Total attempts: 1

Evaluate the following.

$$2^0 = \underline{\hspace{2cm}}$$

$$2^{-3} = \underline{\hspace{2cm}}$$

$$2^4 = \underline{\hspace{2cm}}$$

#6 Points possible: 2. Total attempts: 1

Which of the following is equal to 2^{-3} ?

Select all that apply.

-6

$\frac{1}{8}$

$\frac{1}{2^{-3}}$

6

$\frac{1}{2^3}$

$-\frac{1}{8}$

#7 Points possible: 1. Total attempts: 1

Which of the following demonstrate the correct conversion into scientific notation?

$343,000 \rightarrow 3.43 \times 10^5$

$20,000,000 \rightarrow 2 \times 10^7$

$24,000 \rightarrow 2.4 \times 10^3$

$4,700,000 \rightarrow 47 \times 10^5$

$0.000564 \rightarrow 5.64 \times 10^{-4}$

$0.00092 \rightarrow .92 \times 10^{-3}$

$0.003805 \rightarrow 3.85 \times 10^{-3}$

$0.0313 \rightarrow 3.13 \times 10^{-4}$

#8 Points possible: 2. Total attempts: 1

Divide the following and express your answer in appropriate scientific notation:

$$\frac{6 \times 10^{10}}{2 \times 10^4}$$

quotient: _____

#9 Points possible: 2. Total attempts: 1

Multiply the following and express your answer in appropriate scientific notation:

$$(2 \times 10^2) \times (4 \times 10^5)$$

product: _____

#10 Points possible: 1. Total attempts: 1

Approximately 7.5×10^5 gallons of water flow over a waterfall each second. There are 8.6×10^4 seconds in 1 day. Select the approximate number of gallons of water that flow over the waterfall in 1 day.

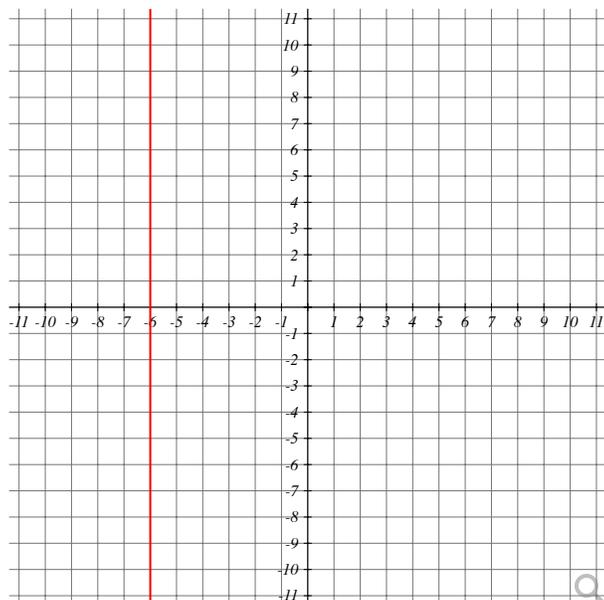
- 6.45×10^{21}
 - 6.45×10^{20}
 - 6.45×10^9
 - 6.45×10^{10}
-

Practice Unit 3 Final Test

Name: Sonja Kivley

#1 Points possible: 1. Total attempts: 1

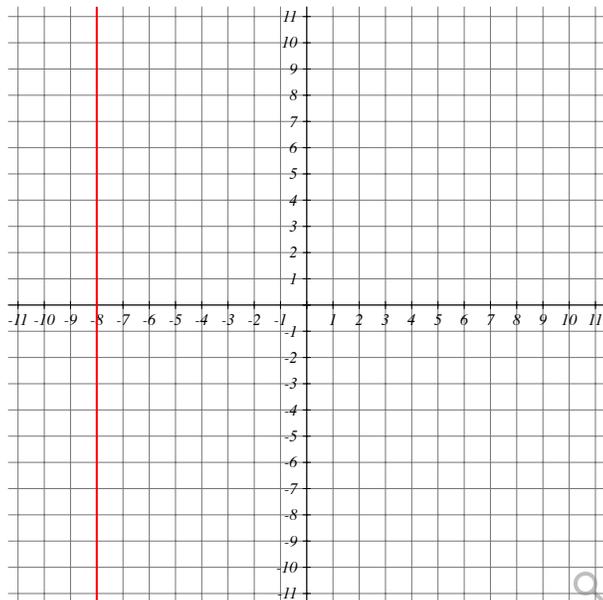
What does the graph below represent?



- Function
- Not a function

#2 Points possible: 1. Total attempts: 1

What does the graph below represent?



- Function
- Not a function
-

#3 Points possible: 1. Total attempts: 1

What does the table of values below represent?

x	y
2	4
3	8
4	16
5	32
6	64

- Function
- Not a function
-

#4 Points possible: 1. Total attempts: 1

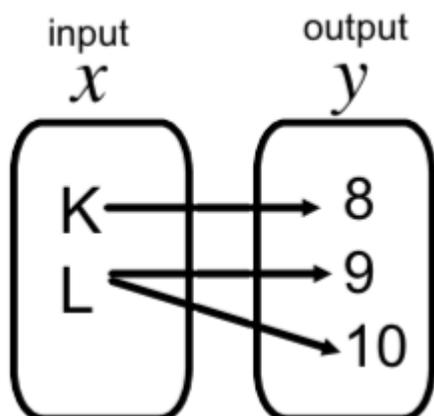
What does the table of values below represent?

x	y
-2	0.25
-1	0.5
0	1
1	2
2	4

- Function
- Not a function
-

#5 Points possible: 1. Total attempts: 1

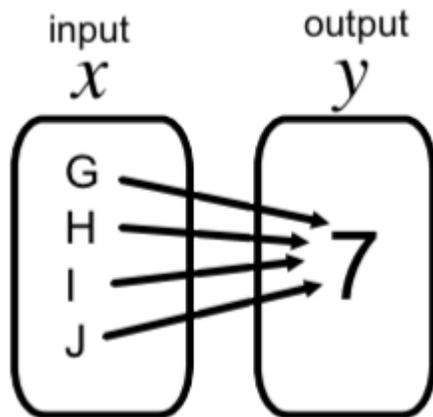
What does the mapping below represent?



- Function
- Not a function
-

#6 Points possible: 1. Total attempts: 1

What does the mapping below represent?



- Function
- Not a function

#7 Points possible: 1. Total attempts: 1

State the domain and range of the relation given in the table below, and determine if it is a function.

x	11	-18	11	12	-15	5
y	-1	6	15	-2	18	23

Domain: { _____ }

Range: { _____ }

Is the relation a function?

- Yes
- No

#8 Points possible: 1. Total attempts: 1

State the domain and range of the relation given in the table below, and determine if it is a function.

x	-18	18	-2	-2	-20	10
y	17	5	19	-20	12	21

Domain: { _____ }

Range: { _____ }

Is the relation a function?

Yes

No

#9 Points possible: 1. Total attempts: 1

Is the scenario below a discrete or continuous relation?

The number of dogs playing at a dog park on Saturday.

Discrete

Continuous

#10 Points possible: 1. Total attempts: 1

Is the scenario below a discrete or continuous relation?

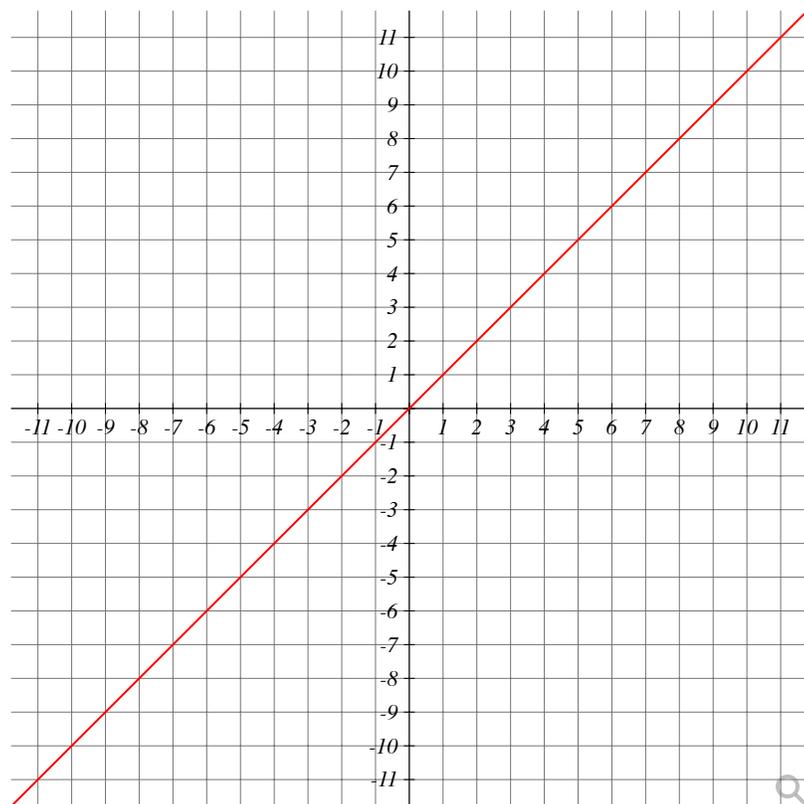
The number of passengers in a car.

Continuous

Discrete

#11 Points possible: 1. Total attempts: 1

Identify the rate of change and initial value for the linear situation modeled below.

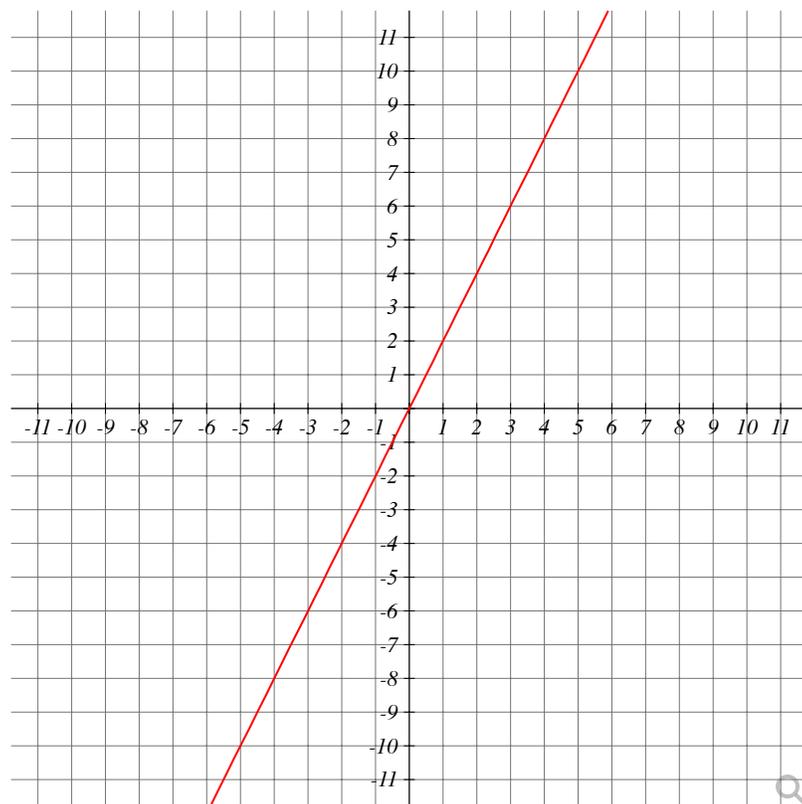


Rate of change: _____

Initial Value: _____

#12 Points possible: 1. Total attempts: 1

Identify the rate of change and initial value for the linear situation modeled below.



Rate of change: _____

Initial Value: _____

#13 Points possible: 1. Total attempts: 1

Identify the rate of change and initial value for the linear situation modeled below.

$$y = \frac{1}{5}x + 8$$

Rate of change: _____

Initial Value: _____

#14 Points possible: 1. Total attempts: 1

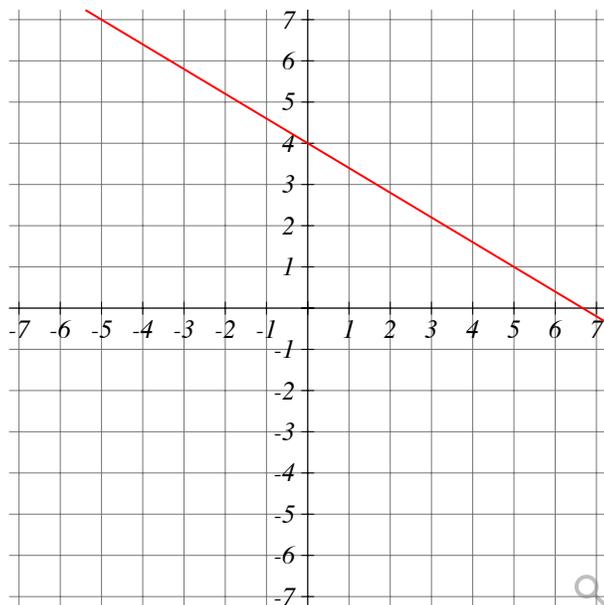
Identify the rate of change and initial value for the linear situation modeled below.

$$y = \frac{1}{2}x + 9$$

Rate of change: _____

Initial Value: _____

#15 Points possible: 1. Total attempts: 1



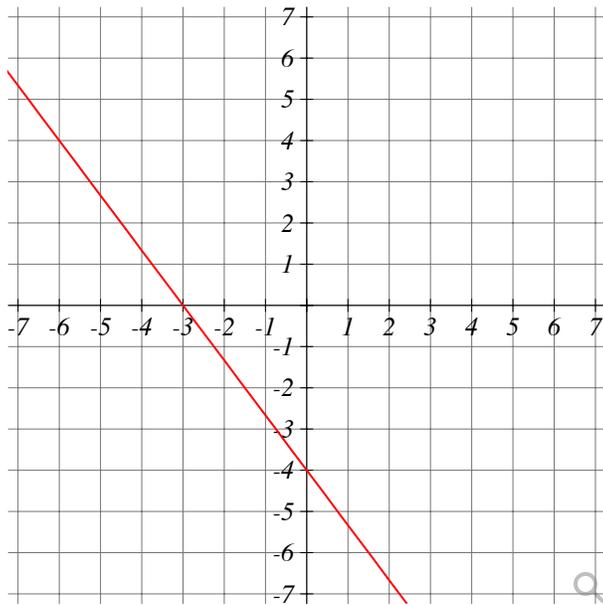
Find the values of m and b for this line.

$m =$ ___

$b =$ ___

Enter your answers as integers and/or as reduced fractions in the form A/B.

#16 Points possible: 1. Total attempts: 1



Find the values of m and b for this line.

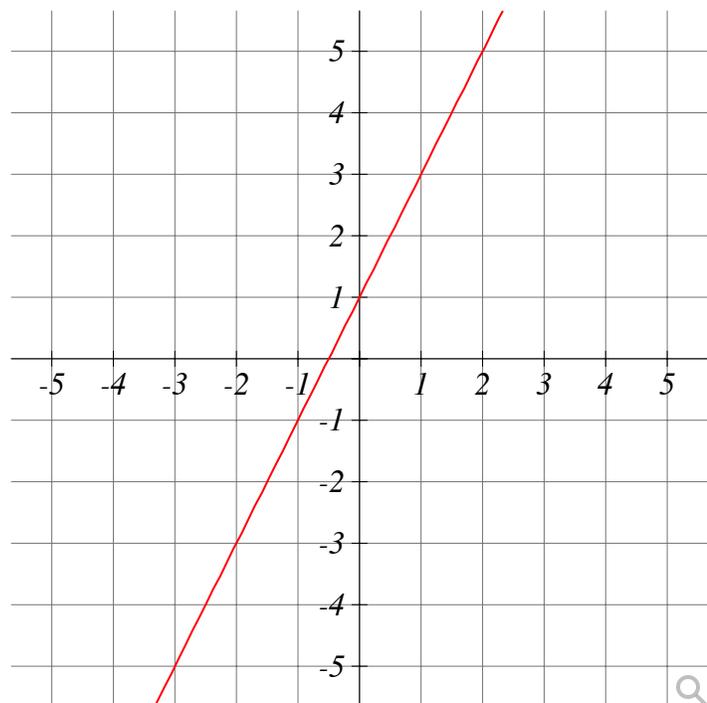
$$m = \underline{\quad}$$

$$b = \underline{\quad}$$

Enter your answers as integers and/or as reduced fractions in the form A/B.

#17 Points possible: 1. Total attempts: 1

Consider the graph of a line.

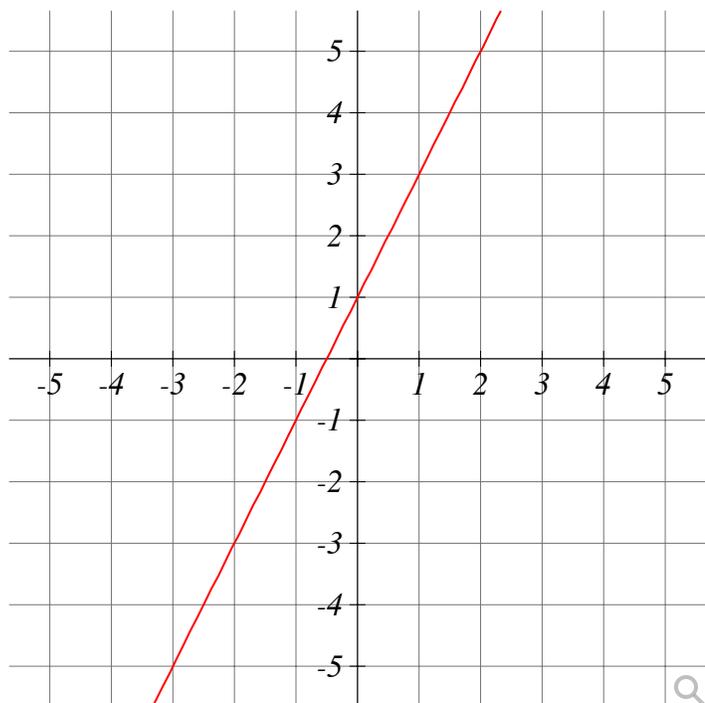


Which equation has a rate of change **greater than** the rate of change for the line shown?

- $y = \frac{1}{3}x - 3$
- $y = \frac{1}{2}x + 4$
- $y = 3x - 1$
- $y = 2x + 2$

#18 Points possible: 1. Total attempts: 1

Consider the graph of a line.



Which equation has a rate of change **greater than** the rate of change for the line shown?

- $y = 3x - 1$
- $y = \frac{1}{3}x - 3$
- $y = 2x + 2$
- $y = \frac{1}{2}x + 4$

#19 Points possible: 1. Total attempts: 1

Identify the rate of change and initial value for the linear situation modeled below.

x	y
1	0
2	5
3	10
4	15
5	20

Rate of change: _____

Initial Value: _____

#20 Points possible: 1. Total attempts: 1

Identify the rate of change and initial value for the linear situation modeled below.

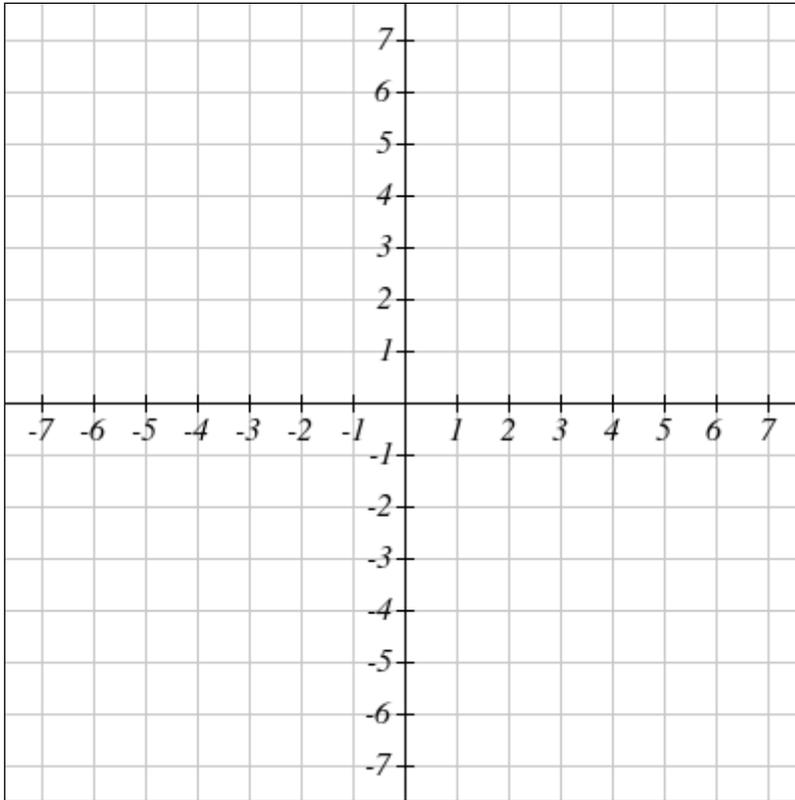
x	y
1	7
2	13
3	19
4	25
5	31

Rate of change: _____

Initial Value: _____

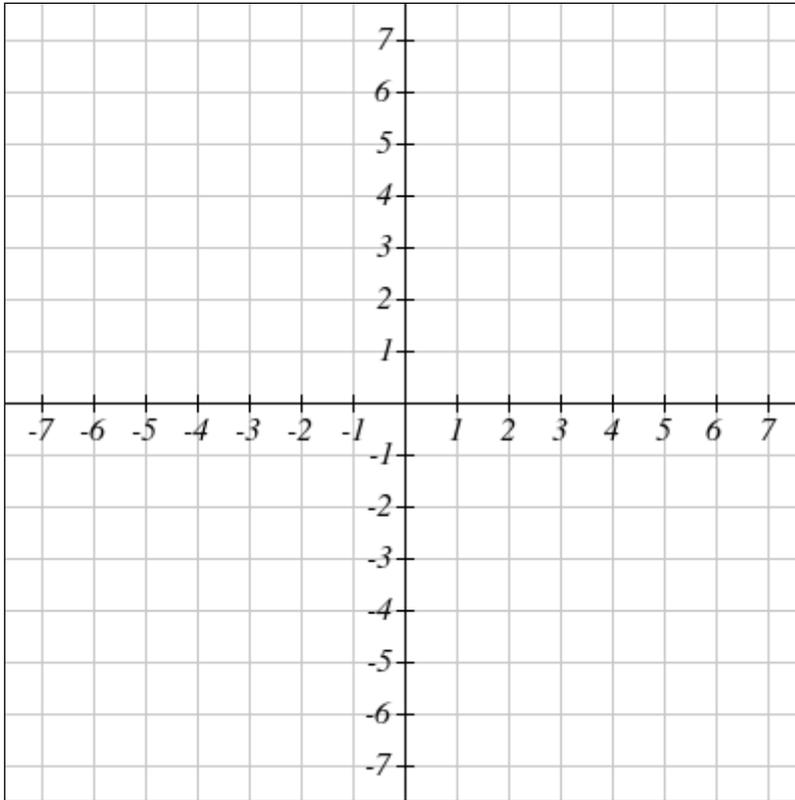
#21 Points possible: 1. Total attempts: 1

Graph the line $6x + 2y = 12$.



#22 Points possible: 1. Total attempts: 1

Graph the line $6x + 2y = 12$.



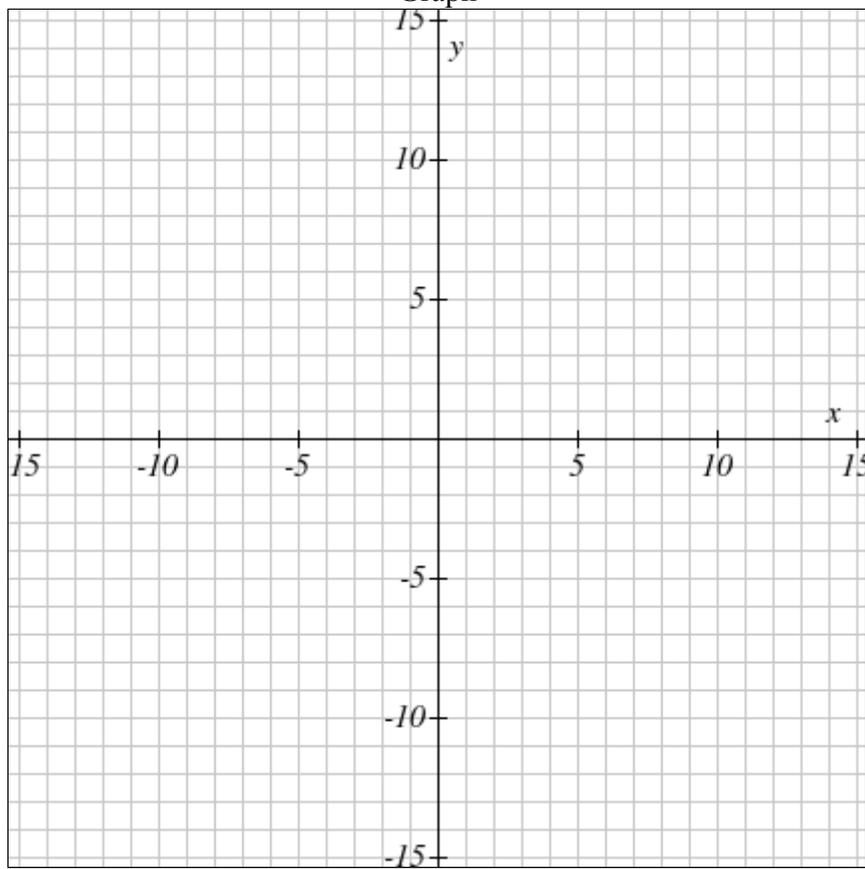
#25 Points possible: 1. Total attempts: 1

Graphing Linear Equations

Determine the equation of the Linear Function that has a slope of -6 and passes through the point $(2, -10)$. Write the equation in Slope-Intercept Form and draw an accurate graph of the equation.

Linear Equation

Graph



Exponent Review 2

Name: Sonja Kivley

#1 Points possible: 1. Total attempts: 1

Following you have the simplification of an expression step by step. Find the mistake if any.

$$(4^2 \cdot 4^{-4})^8$$

1) $(4^{-8})^8$

2) $(4)^{-64}$

3) $\left(\frac{1}{4^{64}}\right)$

- Step 1
- Step 2
- Step 3
- There is no mistake

#2 Points possible: 1. Total attempts: 1

Following you have the simplification of an expression step by step. Find the mistake if any.

$$(5^3 \cdot 5^{-9})^4$$

1) $(5^{-6})^4$

2) $(5)^{-2}$

3) $\left(\frac{1}{5^2}\right)$

- Step 1
- Step 2
- Step 3
- There is no mistake
-

#3 Points possible: 1. Total attempts: 1

Following you have the simplification of an expression step by step. Find the mistake if any.

$$(9^3 \cdot 9^{-7})^4$$

$$1) (9^{-4})^4$$

$$2) (9)^{-16}$$

$$3) \left(\frac{1}{9^{16}}\right)$$

- Step 1
 - Step 2
 - Step 3
 - There is no mistake
-

#4 Points possible: 1. Total attempts: 1

Following you have the simplification of an expression step by step. Find the mistake if any.

$$\left(\frac{4^{-9}}{4^{-2}}\right)$$

$$1) (4^{-9 - (-2)})$$

$$2) (4)^{-7}$$

$$3) \left(\frac{1}{4^7}\right)$$

- Step 1
 - Step 2
 - Step 3
 - There is no mistake
-

#5 Points possible: 1. Total attempts: 1

Following you have the simplification of an expression step by step. Find the mistake if any.

$$\left(\frac{7^{-5}}{7^{-2}}\right)$$

$$1) (7^{-5+(-2)})$$

$$2) (7)^{-7}$$

$$3) \left(\frac{1}{7^7}\right)$$

- Step 1
 - Step 2
 - Step 3
 - There is no mistake
-

#6 Points possible: 1. Total attempts: 1

Following you have the simplification of an expression step by step. Find the mistake if any.

$$\left(\frac{5}{3}\right)^{-3}$$

$$1) \frac{1}{\left(\frac{5}{3}\right)^3}$$

$$2) \frac{1}{\frac{125}{27}}$$

$$3) \frac{27}{125}$$

- Step 1
 - Step 2
 - Step 3
 - There is no mistake
-

#7 Points possible: 1. Total attempts: 1

Following you have the simplification of an expression step by step. Find the mistake if any.

$$\left(\frac{4}{5}\right)^{-3}$$

$$1) \frac{1}{\left(\frac{4}{5}\right)^{-3}}$$

$$2) \frac{1}{\frac{125}{64}}$$

$$3) \frac{64}{125}$$

- Step 1
 Step 2
 Step 3
 There is no mistake

#8 Points possible: 1. Total attempts: 1

Which expressions are equivalent to $\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$

Select all that are equivalent.

$\frac{4^{-5} \cdot 4^8}{(4^2)^3}$

$\frac{(4^2)^0 \cdot (4^4)^2}{4 \cdot 4^2}$

4^{-3}

$\frac{1}{4} \cdot \left(\frac{1}{4}\right)^2$

None

#9 Points possible: 1. Total attempts: 1

Which expressions are equivalent to $\frac{1}{6^3}$

Select all that are equivalent.

$\frac{6^{-5} \cdot 6^8}{(6^2)^3}$

$\frac{(6^2)^0 \cdot (6^4)^2}{6 \cdot 6^2}$

$\frac{1}{6} \cdot \left(\frac{1}{6^2}\right)$

None

$6^{-3} \cdot 6^0$

#10 Points possible: 1. Total attempts: 1

Which expressions are equivalent to

$$\left(\frac{6^{-5}}{6^{-3}}\right)$$

Select all that are equivalent.

$\frac{1}{6} \cdot \left(\frac{1}{6^{-3}}\right)$

6^{-2}

None

$\left(\frac{6^0}{6^2}\right)$

$\frac{(6^2)^0 \cdot (6^4)^2}{6 \cdot 6^2}$

#11 Points possible: 1. Total attempts: 1

Write 9^6 in expanded form.

$9^6 =$ _____

#12 Points possible: 1. Total attempts: 1

Evaluate : $(-4)^4 =$ _____

#13 Points possible: 1. Total attempts: 1

Evaluate: $2^3 =$ _____

#14 Points possible: 1. Total attempts: 1

Perform the indicated operation, leave your answer as a fraction. $\left(-\frac{3}{3}\right)^2$

#15 Points possible: 1. Total attempts: 1

Without evaluating determine if the product will be positive or negative.

Type "Positive" or "Negative"

$(-4)^2 =$ _____

#16 Points possible: 1. Total attempts: 1

Write $\frac{5^2}{2^4}$ in expanded form.

$\frac{5^2}{2^4} =$ _____

#17 Points possible: 1. Total attempts: 1

Write $\left((4)^2\right)^2$ in expanded form.

$\left((4)^2\right)^2 =$ _____

#18 Points possible: 1. Total attempts: 1

$$\frac{(2)^2 \cdot (2)^4}{(2)^2}$$

What is the simplified version of the expression in x^m exponential form? _____

Evaluate the power. For values less than 1, leave answers in fraction form. _____

#19 Points possible: 1. Total attempts: 1

Evaluate : $(2)^2 =$ _____

#20 Points possible: 1. Total attempts: 1

Evaluate : $(-7)^0 =$ _____

#21 Points possible: 1. Total attempts: 1

Evaluate the following expression: $\left(\frac{5}{4}\right)^{-4}$

Write the answer as a whole number or a reduced fraction.

#22 Points possible: 1. Total attempts: 1

Evaluate the following expression: $\frac{\left(\frac{5}{7}\right)^7}{\left(\frac{5}{7}\right)^3}$

Write the answer as a whole number or a reduced fraction.

#23 Points possible: 1. Total attempts: 1

Evaluate the following expression: $\frac{\left(\frac{6}{5}\right)^2}{\left(\frac{6}{5}\right)^4}$

Write the answer as a whole number or a reduced fraction.

#24 Points possible: 1. Total attempts: 1

Evaluate the expression $3^{-3}5^3$.

#25 Points possible: 1. Total attempts: 1

Simplify. Leave in x^m exponential form.

$9^{-9} \cdot 9^{-2}$

#26 Points possible: 1. Total attempts: 1

Write the following expression in the simplest exponential form: $(-3)^4 \cdot (-3)^{-3}$

Answer= _____

#27 Points possible: 1. Total attempts: 1

Write in exponential form using positive exponents. $\left((-2)^{-3}\right)^6$

#28 Points possible: 1. Total attempts: 1

Write in exponential form using positive exponents. $(-3^3)^1$

#29 Points possible: 1. Total attempts: 1

Write in exponential form using positive exponents. $(-3^{-3})^0$

#30 Points possible: 1. Total attempts: 1

Simplify. Leave in x^m exponential form.

$$\frac{2^{-4}}{2^{15}}$$

#31 Points possible: 1. Total attempts: 1

Evaluate.

$$\frac{1}{(4)^{-2}}$$

#32 Points possible: 1. Total attempts: 1

Write in exponential form.

$$\frac{1}{(6)^{-2}}$$

#33 Points possible: 1. Total attempts: 1

$$\frac{6^6 \cdot 4^4}{3^3}$$

What is the simplified version of the expression in x^m exponential form? _____

Evaluate the power. For values less than 1, leave answers in fraction form. _____

#34 Points possible: 1. Total attempts: 1

Write the following expression in the simplest exponential form: $\frac{\left(\frac{2}{6}\right)^5}{\left(\frac{2}{6}\right)^2}$
