

ISTEP+ Grade 10 Writing

Driverless Cars

Practice Set 1

Directions

Read the article "Driverless Cars Are Coming." Then answer the questions.

Driverless Cars Are Coming

- 1 Can you imagine a time in the future when no one buys cars because no one needs them anymore? Google cofounder Sergey Brin can. He envisions a future with a public transportation system where fleets of driverless cars form a public-transport taxi system. The cars he foresees would use half the fuel of today's taxis and offer far more flexibility than a bus. He believes such cars would fundamentally change the world.
- 2 Television and movies have long been fascinated with cars that could drive themselves. In reality, Google has had cars that could drive independently under specific conditions since 2009. Their cars have driven more than half a million miles without a crash, but so far, Google cars aren't truly driverless; they still alert the driver to take over when pulling in and out of driveways or dealing with complicated traffic issues, such as navigating through roadwork or accidents. So what roadblocks lie ahead for the autonomous car?

Sensing the World

- 3 Let's begin by looking at which companies are making computer-driven cars. Originally, many futurists believed the key to developing self-driving cars someday wasn't so much smarter cars as smarter roads. For example, in the late 1950s, General Motors created a concept car that could run on a special test track. The track was embedded with an electrical cable that sent radio signals to a receiver on the front end of the car. Engineers at Berkeley tried something similar, but they used magnets with alternating polarity. The car read the positive and negative polarity as messages in binary code¹. These smart-road systems worked surprisingly well, but they required massive upgrades to existing roads, something that was simply too expensive to be practical.
- 4 Without the option of smarter roads, manufacturers turned to smarter cars – but how much smarter did the cars need to be? For starters, they needed a whole lot of sensors. Google's modified Toyota Prius uses position-estimating sensors on the left rear wheel, a rotating sensor on the roof, a video camera mounted near the rearview mirror, four automotive radar sensors, a GPS receiver, and an inertial motion sensor. The most important bit of technology in this system is the spinning sensor on the roof. Dubbed LIDAR, it uses laser beams to form a constantly updating 3-D model of the car's surroundings. The combination of all this input is necessary for the driverless car to mimic the skill of a human at the wheel.

¹binary code – a coding system that uses the binary digits 0 and 1 to represent a letter, digit, or other characters in a computer and other electronic devices

Driving or Assisting?

- 5 Sensors are nothing new, of course. In the 1980s, automakers used speed sensors at the wheels in the creation of antilock brakes. Within 10 years, those sensors had become more advanced to detect and respond to the danger of out-of-control skids or rollovers. The information from the sensors can cause the car to apply brakes on individual wheels and reduce power from the engine, allowing far better response and control than a human could manage alone. Further improvements in sensors and computer hardware and software to make driving safer are also leading to cars that can handle more and more driving tasks on their own.
- 6 Antilock brakes and driver assistance still seem a long way from the dream of calling a driverless cab to take us wherever we desire, but Sebastian Thrun, founder of the Google Car project, believes that the technology has finally begun to catch up to the dream. “There was no way, before 2000, to make something interesting. The sensors weren’t there, the computers weren’t there, and the mapping wasn’t there. Radar was a device on a hilltop that cost two hundred million dollars. It wasn’t something you could buy at Radio Shack.” So just how driverless will the cars be in the near future?
- 7 In 2013, BMW announced the development of “Traffic Jam Assistant.” The car can handle driving functions at speeds up to 25 mph, but special touch sensors make sure the driver keeps hold of the wheel. In fact, none of the cars developed so far are completely driverless. They can steer, accelerate, and brake themselves, but all are designed to notify the driver when the road ahead requires human skills, such as navigating through work zones and around accidents. This means the human driver must remain alert and be ready to take over when the situation requires. This necessitates the car being ready to quickly get the driver’s attention whenever a problem occurs. GM has developed driver’s seats that vibrate when the vehicle is in danger of backing into an object. The Google car simply announces when the driver should be prepared to take over. Other options under consideration are flashing lights on the windshield and other heads-up displays. Manufacturers are also considering using cameras to watch that drivers are remaining focused on the road. While the driver watches the road, the car watches the driver.
- 8 Why would anyone want a driverless car that still needs a driver? Wouldn’t drivers get bored waiting for their turn to drive? “The psychological aspects of automation are really a challenge,” admits Dr. Werner Huber, a BMW project manager driver. “We have to interpret the driving fun in a new way.” Some manufacturers hope to do that by bringing in-car entertainment and information systems that use heads-up displays. Such displays can be turned off instantly when the driver needs to take over – something not available to drivers trying to text with a cell phone. In this way, the in-car system is actually a safety feature, and safety is a big concern.

Waiting on the Law

- 9 Most driving laws focus on keeping drivers, passengers, and pedestrians safe, and lawmakers know that safety is best achieved with alert drivers. Presently, traffic laws are written with the assumption that the only safe car has a human driver in control at all times. As a result, in most states it is illegal even to test computer-driven cars. California, Nevada, Florida, and the District of Columbia have led the country in allowing limited use of semi-autonomous cars; manufacturers believe that more states will follow as soon as the cars are proved more reliably safe. Still, even if traffic laws change, new laws will be needed in order to cover liability in the case of an accident. If the technology fails and someone is injured, who is at fault – the driver or the manufacturer?
- 10 Automakers are continuing their work on the assumption that the problems ahead will be solved. Tesla has projected a 2016 release for a car capable of driving on autopilot 90 percent of the time. Mercedes-Benz, Audi, and Nissan plan to have cars that can drive themselves by 2020. The road to the truly autonomous car stretches on ahead of us, but we grow closer to the destination every day.

Item Stem

In the article “Driverless Cars Are Coming,” the author presents both positive and negative aspects of driverless cars. Using details from the article, create an argument for or against the development of these cars.

Be sure to include

- your position on driverless cars
- appropriate details from the article that support your position
- an introduction, a body, and a conclusion to your argumentative essay

Student Response 1

Did you know that we may change the future drastically, just by changing how we use cars? Computerized cars are becoming an increasingly bigger hit as time goes on. These ingenious machines have long been researched, allow plenty of efficiency, and, most importantly, are safe and reliable.

Officials at large companies such as Google, as well as many others, have long dreamt of a more technological future with computerized driving. In fact, many have already extensively researched and built brilliant prototypes of these machines. Sensors, which have been around since the 1980s, have been significantly improved in only a decade. These can be used to assist the computer in guiding the car through roads, braking, turning, all the functions needed for a car to perform. With these and the extensive research, we may soon have a perfectly capable computerized automobile.

Many people have expressed worry for their economy and their environment throughout recent years. An amazing positive to having these cars is that a plethora of resources and money are saved. These cars use only half of the fuel that most cars use, and the path leading us to these gadgets is the cheapest we have devised. Some have tried powering these cars using many stretches of road with magnets or cables built into them. A much better alternative, however, is to turn to a smarter car, over a smarter road. Sensors placed around the vehicles guide their way around obstacles and allow the car to move freely, without any outside assistance or expensively built roads.

Finally, there is the extremely important concept of safety. Google smart cars have driven more than half a million miles with an accident, and have been running since 2009. This, and our use of advanced sensor technology, more than show that these modern cars can be trusted. As an added safety measure, as well as convenience, heads up displays have been created to show information and communications. Phones and driving have shown to be a terrible combination for some. With these cars, texts and other communications are shown upon the windshield, allowing you to communicate and keep an eye out for your surroundings at the same time.

Overall, it has clearly come to light that we are easily on our way to a more advanced future, and a brighter one as well. These automatons have been proven to be efficient, reliable, and and greatly usable.

Writing - 6 pts

The efficiency of the language makes this argument distinctive. The essay may not be overly long, still, the response fully explores multiple facets of the topic: the impact on technology, the economy, and the environment, as well as the veracity of the car's safety. The response engages the audience from the first sentence until the last (Did you know that we may change the future drastically, just by changing how we use cars?). Ideas within the paragraphs are developed with specific details and progress in an order that enhances meaning (As an added safety measure, as well as convenience, heads up displays have been created to show information and communication. Phones and driving have shown to be a terrible combination for some. With these cars, texts and other communications are shown upon the windshield, allowing you to communicate and keep an eye out for your surrounds at the same time). The fluency of the language and the easy flow of the sentences sets this response apart as an outstanding performance and earns a Score Point 6 in Writing.

Language Conventions - 4 pts

The spelling errors in this response are generally of the first-draft variety (significantly, computerized, environment). The response demonstrates superior command capitalization, punctuation, sentence structures, as well as grammar and English usage and earns this response a Score Point 4 in Language Conventions.

Student Response 2

Transportation has driven people for centuries. The constant improvement of speed and comfort has allowed humans to transform the way they live and function on a daily basis. From the horse to the modern sports car, and every edition of vehicle in between, one thing has remained constant: the necessity of human action. Since the dawn of time humans have needed to be alert and attentive to the task of moving themselves from one place to the next, and naturally their goal has been to remove that limitation. Due to advances in modern technology, this dream is shaping into a reality. With the invention of sensors and GPS, companies have developed driverless cars, which require little human action to transport humans from their starting point to their destination. These cars are not yet available to the general public, although that may soon change. Driverless cars should be introduced to the general public because of their potential safety and efficiency.

The driverless car has the potential to be significantly more safe than its human operated counterpart. With the rapid advancement of technology, sensors and GPS receivers are on course to be more effective than humans in avoiding careless driving errors. While technology has still not risen to this level, manufacturers have proposed a multitude of solutions involving the alerting of the driver with seat vibration or a simple verbal notification. This allows the driver to trust the car not to make basic human errors, and ensures that the driver can focus on the more difficult aspects of driving that the car is not yet able to handle. The usage of sensors and machines will also severely reduce the potential for driving under the influence, as companies like BMW are finding ways to monitor the attentiveness of the driver, ensuring that safety is the greatest priority of the driver. In regard to the overall well-being of the driver, the driverless car has massive advantages over a regular car, and the improvement of safety alone justifies the introduction of driverless cars to the general public.

While safety is imperative to the success of the driverless car, the efficiency of these cars will be what sells them. Driverless cars would use GPS to create the most efficient path towards the user's destination. This would mean less time for the user to become involved in an accident, and would also mean the usage of less fuel. These cars would also allow the driver to accomplish something while the car is driving. Incredible amounts of time could be saved by allowing users to eat or study in the midst of their thirty minute drive to school or work, which would be appealing enough to many consumers that they would further consider the purchase of a driverless car. By implementing driverless cars into the lives of the average consumer, the overall efficiency of drivers would be dramatically improved. This improvement provides a noteworthy reason to begin introducing the driverless car to the consumer.

The efficiency of driverless cars would be great, and the safety would be encouraged and welcomed, but there are still roadblocks preventing the driverless car from finding success. Technology has yet to escalate to the point at which these cars can be trusted. Although Google cars have driven, "more than half a million miles without a crash..." the cars are being helped by an attentive user on the inside. Due to the lack of available technology perhaps the driverless car should not be introduced until the technology is made available. The driverless car also presents the challenge of unavoidably increased costs, as the consumer would have to pay for both a functional automobile and the computer systems that allow it to drive itself. The financial commitment to this product would not allow a large amount of consumers to acquire it, which is yet another reason to be wary of the driverless car. Finally, the car is currently outlawed in the vast majority of States in the United States. While this problem will likely be eliminated by the time the product is available for purchase, it is reasonable to say that the current legal status of the driverless car is preventing the widespread selling of the car. Regardless of the drawbacks and limitations on the driverless car, the

manufacturers of cars should continue to pursue the effort of making them widely available. The laws and technology will soon be complacent with the driverless car, and the cost will continue to decrease as the technology improves.

The driverless car has been pursued for decades, and not that it is on the brink of reality manufacturers must make an effort to make the car widely available. The driverless car will be more safe and more efficient than anything that is used by drivers today. For the improvement of both people's safety and enjoyment of their driving experience, make the driverless car available as soon as possible.

Writing - 6 pts

This response argues for the use of driverless cars in a thorough and insightful manner; the multiple facets explored with exceptional supporting facts and details sets it apart as an outstanding performance (Driverless cars would use GPS to create the most efficient path towards the user's destination. This would mean less time for the user to become involved in an accident, and would also mean the usage of less fuel. These cars would also allow the driver to accomplish something while the car is driving. Incredible amounts of time could be saved by allowing users to eat or study in the midst of their thirty minute drive to school or work . . . By implementing driverless cars into the lives of the average consumer, the overall efficiency of drivers would be dramatically improved). Ideas progress with smooth transitions between sentences and paragraphs in an order that enhances the meaning of the text (The efficiency of driverless cars would be great, and the safety would be encouraged and welcomed, but there are still roadblocks preventing the driverless car from finding success. Technology has yet to escalate to the point at which these cars can be trusted. Although Google cars have . . .). This response earns a Score Point 6 in writing.

Language Conventions - 4 pts

Despite spelling errors (imbetween; efficiency, receivers) and usage error (more safe), this response demonstrates superior command of capitalization, punctuation, paragraphing, and sentence structure. Holistically, this response earns a Score Point 4 in Language Conventions.

Student Response 3

Where to Draw the Line

People's daily dependence on technology in recent years is a trend that does not seem to be slowing down anytime soon. Car manufacturers such as Google, GM and BMW have each been working on furthering the development of driverless cars, cars that can potentially function without human assistance. However, driverless cars should not be developed any further because they will never be completely automatic and they are a safety hazard.

The idea that cars could ever function without human assistance is impossible. As stated in the article "Driverless cars are coming," these driverless cars still need drivers when "dealing with complicated traffic issues, such as navigating through roadwork or accidents" (2). Driving is unpredictable. Even if the driverless cars were programmed to handle minor complications while driving, there is no way to program the cars to handle every situation life would throw at a driver.

The inability for driverless cars to handle unexpected situations makes them a safety hazard. Not to mention the fact that technology is very unreliable, in general. It will break or malfunction from time to time. If someone does get hurt in a driverless car, more problems arise. According to the article, "If the technology fails and someone is injured who is at fault...?" (1). The argument over whether to blame the driver or the manufacturer is an argument that will never be resolved.

We live in a society that strives to continually improve upon itself. Therefore, it is only natural for people to want to further develop the concept of driverless cars. It is impossible, however, to develop a completely driverless car without major safety concerns. Therefore, the further development of driverless cars should be stopped.

Writing - 5 pts

This response demonstrates an effective adjustment of language and tone for a fully developed argument against the use of driverless cars. The writing is fluent and seamlessly weaves in facts and quotes from the text (The idea that cars could ever function without human assistance is impossible. As stated in the article "Driverless cars are Coming," these driverless cars still need drivers when "dealing with complicated traffic issues, such as navigating through road work or accidents" (2). Driving is unpredictable. Even if the driverless cars were programmed to handle minor complications while driving, there is no way to program the cars to handle every situation life would throw at a driver.). This paper represents a solid performance, but lacks the thorough development of a Score Point 6. Instead, this response earns a Score Point 5 in Writing.

Language Conventions - 4 pts

This response demonstrates superior command of capitalization, punctuation, spelling, English usage and paragraphing. The single sentence fragment (The inability for driverless cars to handle unexpected situations makes them a safety hazard. Not to mention the fact that technology is very unreliable, in general.) does not impair the flow of communication. Holistically, this response earns a Score Point 4 in Language Conventions.

Student Response 4

The future all kids have dreamed about is near - we have robots washing dishes, edible waterbottles, talking computers, and cars that drives themselves. This may all sound magical, but are we really putting ourselves at risk by trying to improve the world we live in? Driverless cars are an extremely scary and dangerous invention that could put everyone on the road's lives at risk. They may have passed thousands of crash tests, but who says they won't crash on the road? If someone does crash on the road, who will be responsible? What will happen to almost a year's worth of education we need to learn how to drive a car? All of these are questions that we need to be asking, but are being overpowered by the exciting idea that our world will one day turn into the fictional world we all saw in cartoons as a kid. The year is 2016, but I believe we need to spend more time perfecting and researching the driverless car more to make sure no one's lives have to be taken away too soon.

Google has impacted everyone's lives in thousands of different ways. They are the futuristic change we want to see. They even have had a driverless car invited since 2009. When put to the test, this driverless car has passed over a half of a million crash tests; but what happens when it doesn't? All we see on the televisions or read in the magazines are all these accomplishments they have made and mainly the good, succesful things they have invented, but who has heard about all the times it didn't succeed? We can't just assume that just because the car has successfully passed so many tests we won't be the one in the car the few times it doesn't. Google has spent many years on this project, but it is no where near perfect yet. Because this invention involves the risk of injury and death, I believe that further research and inventions need to be made so that there is a 0% risk of anyone getting killed in the car.

Imagine: the year is 2027 and driverless cars have been around for 5 years - almsot everyone you know has one. Google has found a way to make sure it'll never crash and no one has died in a driverless car related accident yet - until your aunt's break suddenly broke without reason and the car behind her hit her at 50 mph, killing the driver. Who will be at fault? Your aunt technically wasn't driving the car - is it the manufacture's fault? These are thoughts that no one thinks about when reading in the newspaper about all these new creations. Is it the person who is "driving" the car's fault? They can argue their way out of it, claiming that it was the car's fault and that they weren't controlling it in any way. Is it the manufacture's fault? How can they argue? They weren't the ones controlling the car either. Their company could also go bankrupt from lawsuits or people may stop buying from that company once they hear that their car has been involved in a crash. In the end, it will be extremely hard to determine who would be at fault.

The "big thing" now is that when someone turns 16, they rush on over to the BMV and get their drivers license. Parents spend large amounts of money to provide their kids with the education they need before they can control their own vehicle. What will happen to this once driverless cars become reality? Typically, a person will start at age 15 and study driver's education to work to get their permit, and once they have their permit, they need to wait 6 months and practice driving for hours before they can test to get their driver's license. Will we need driver's licenses anymore if we get driverless cars? Even today, with the education people recieve to get their driver's license, there are still thousands and thousands of crashes because people didn't properly follow the rules of the road. Will the driverless car know where it is illegal to make a turn? If not, will the driver of the car still have to spend almost a year studying just to be able to sit behind the wheel and make sure it doesn't crash? Both ideas seem illogical. It is too risky to trust a car to be able to determine how fast the speed limit is or where

it's illegal to make a U-turn or not, but it is also pointless to make drivers follow the same law there is now about driver's licenses.

We always wonder how the future will turn out - what job will we have, where will we live, how are we going to die? We sometimes forget that what comes with the future also comes with risks, like driverless cars. Driverless cars have recently been increasing in numbers and as a young driver myself, the idea terrifies me. They have been tested to make sure there is no fault in the car's system, but how will I know I will not be the unlucky one that is in the car when it does fail? When it does fail, will it be my fault? Did learn all this information I learned just to be able to sit on the left side of the car and watch the sky? These are all questions no one wants to ask or accept. We still have many years left on this Earth, we need to spend more time perfecting the structures and the laws that surround the invention of the driverless car.

Writing - 5 pts

This response provides in-depth information and more than adequate supporting facts and details that fully develop the argument against the use of driverless cars. The word choice includes precise descriptions that are rich in detail (The future all kids have dreamed about is near - we have robots washing dishes, edible waterbottles, talking computers, and cars that drives themselves. This may all sound magical, but are we really putting ourselves at risk by trying to improve the world we live in? Driverless cars are an extremely scary and dangerous invention that could put everyone on the road's lives at risk). The lively tone and original perspective of the writer's technique demonstrate a sense of audience (Imagine: the year is 2027 and driverless cars have been around for 5 years - almost everyone you know has one. Google has found a way to make sure it'll never crash and no one has died in a driverless car related accident). However, the overreliance on rhetorical questions and the hypothetical crash demonstrates a lack of sophistication needed for a score point 6 (. . . until your aunt's break suddenly broke without reason and the car behind her hit her at 50 mph, killing the driver. Who will be at fault? Your aunt technically wasn't driving the car - is it the manufacturer's fault? . . . Is it the person who is "driving" the car's fault? They can argue their way out of it, claiming that it was the car's fault and that they weren't controlling it in any way. Is it the manufacturer's fault? How can they argue?) This response earns a Score Point 5 in Writing.

Language Conventions - 4 pts

There are a few usage errors in this response (. . . no one's lives [life] have [has] to be taken) and spelling errors (extremely; fictional; successful; almost; manufacturer's). However, none of the errors impair the flow of communication, and most of the response demonstrates command of language skills. Overall, the response provides enough evidence that the student has a thorough control of the concepts outlined in the Indiana Academic Standards for a student

Student Response 5

In the near future many people think it could be easier to have cars that could drive themselves. Maybe this is because us as individuals wouldn't have to do so much work with traffic, letting us sit back and relax. Although many might take this as a wonderful concept I would disagree with the self-driven cars. This is because we would become lazy, we would forget the laws while on the road and there would be more car accidents. There are many things that would make a self-driven car useful but there are also more negative effects.

Firstly, a self-driven car would most likely cause most individuals to procrastinate. This is because we wouldn't have to try as hard to focus while we are on the road. Soon enough in time cars wouldn't need a driver at all which will result in certain individuals not needing a driver's license. With the start of self-driven cars we would soon develop more technology to advance other things like houses or yard work or even computer powered maids. This would be leading us to let others do all work necessary without having to actually do anything. For example, Say you are driving on the road and the car switches off and you have to start driving. With the way things are going you no longer have a driver's license because it's been years since you've actually driven a car. This gets you either pulled over or in a brutal car accident due to the fact that we allow self-driven cars to overpower ourselves.

Secondly, Automotive cars wouldn't be such a good idea because we would forget traffic laws. We would still remember the common rules like which light means to slow down, stop, or continue going. This is simply because we've known that fact our whole lives, but what happens when we forget the more complicated rules we learn as adults? As more technology advances it would cause us to simply forget the more important rules of safe driving. If the car switches over and the individual has to take the wheel how would they know when to turn in a round about? Or simply how to cross over a lane by themselves? If we were to make it a choice to either own a car or a self-driven car sponsored by Google everyone, or most of us, would need to know how to drive and remember every rule there is about driving on the road.

Lastly, there would be a higher number of accidents with the Google car. If most of us are already texting while driving what would happen if that increased with the Google car? We would be doing much more than just texting quick responses, we would be watching videos on facebook, or facetimeing friends. This could start causing concerns because if the car decides to switch over we could be unaware even if it tries to alert us. Therefore, causing more accidents than it does today with the modern vehicles we already own. Without the self-driven cars we would be more aware of our surroundings while driving which leads to fewer mishaps.

In all, The Google powered car would be a higher risk for accidents, procrastination, and forgetfulness. Even though many had already developed good theories on how we could make those special cars work, there are many more scenarios and consequences to think about. As scientists and engineers begin to develop more cases then they should run more tests and more surveys from all genres of people. With jumping straight into the idea there are various complications that approach it.

Writing - 5 pts

The response fully accomplishes the task by establishing an argument in the opening paragraph and developing it extensively throughout the body paragraphs. While organization uses simplistic transitions the vocabulary is controlled, the tone is effective, and the support is detailed. This response represents a solid performance and earns a Score Point 5 in Writing.

Language Conventions - 3 pts

The response demonstrates good control of language skills. Errors in punctuation, capitalization (Say, Automotive), sentence structure (fragments), and spelling (liscense, procrastinate) have minor impact on the flow of communication. Grammar errors are of the first-draft quality. This response earns a Score Point 3 in Language Conventions.

Student Response 6

When trying to develop an opinion on driverless cars there are a lot of different aspects to consider. They aren't something you can automatically be for or against because there are a lot of different positives and negatives that come with driverless cars.

Driverless cars are very interesting and one positive that comes along with driverless cars is the fact that it would be a huge advancement in our technology. Paragraphs 4 and 5 give examples of the amount of technology needed to use a driverless car.

"For starters, they needed a whole lot of sensors. Google's modified Toyota Prius uses position-estimating sensors on the left rear wheel, a rotating sensor on the roof, a video camera mounted near the rearview mirror, four automotive radar sensors, a GPS receiver, and an inertial motion sensor. The most important bit of technology in this system is the spinning sensor on the roof. Dubbed LIDAR, it uses laser beams to form a constantly updating 3-D model of the car's surroundings." ("Driverless Cars Are Coming")

There are many other positive aspects that come along with driverless cars, but there are also negatives. One of the negatives listed at the end of paragraph 9 talks about liability. "Still, even if traffic laws change, new laws will be needed in order to cover liability in the case of an accident. If the technology fails and someone is injured, who is at fault—the driver or the manufacturer?" ("Driverless Cars Are Coming")

This brings up a good legal issue as well as a necessary change needed in our laws if driverless cars were to hit the roads. These are just two arguments out of hundreds that could have been brought up for both the positive and negative aspects of driverless cars. However there is one point I specifically want to argue.

Driverless cars are a good idea and I believe that one day they will and should hit the roads, but before that can happen a lot of things need to change. For example roads, laws, and technology all need to be updated if we want driverless cars. With that being said I do believe that the development of driverless cars should continue, but I do not believe they are ready for the roads.

Writing - 4 pts

This response presents a unified, though nuanced, argument for the development of driverless cars (. . . I do believe that the development of driverless cars should continue, but I do not believe they are ready for the roads). While the ideas are sometimes listed and the development relies heavily on long quotes, the details are relevant and adequate for a response at this score point. The argument is organized logically and the use of a counterargument demonstrates an attempt to establish a style appropriate for the task. The vocabulary is basic, but the sentence structures are varied. Overall, the response accomplishes the task and earns a Score Point 4 in Writing.

Language Conventions - 4 pts

Though there are a few spelling errors (alot; Paragraphs; nessasary; ot) and commas are missing after some introductory clauses, these errors are generally of the first-draft variety or occur when the student attempts sophisticated sentence construction. None of these errors impair the flow of communication. Holistically, this response demonstrates superior command of written English language conventions and earns this response a Score Point 4 in Language Conventions.

Student Response 7

In the past driverless cars were only a idea, or a thing in movies. With the help of today's technology they are starting to become a reality. Driverless cars are a great thing for us to continue developing and enhancing, since they work smoothly, they are safe, and they have different levels of how driverless they are.

Driverless cars work to make every-day life easier and simpler for everyone. Google has developed a modified Toyota Prius that has been able to smoothly drive itself 90% of the time. The makers of this car had added position-estimating sensors to the left-rear wheel, a rotating sensor on the roof, and a video camera on the rearview mirror, so the car can constantly produce a 3-D model of where the car is. This in turn allows for the car to operate safely.

Driverless cars are also very safe. They still have an alert driver in the driver's seat for some of the instances where the car cannot operate itself. Some of the instances are road work or an accident that the driver would have to maneuver around. This adds to the safety of this high-tech cars.

There are also many types of driverless cars. Some of these cars are much simpler and only have traffic-jam assistance that only works at speeds of up to 25 miles per hour. Then there are cars like the one made by Google that can operate itself 90% of the time only needing human operation when there was an accident on the side of the road or road construction being done.

Overall driverless cars are the future and we should embrace how they work, how safe they are, and all the different types there are.

Writing - 4 pts

This response presents a clear argument supported by sufficient facts and details drawn from the text (Driverless cars work to make everyday life easier and simpler for everyone. Google has developed a modified Toyota Prius that has been able to smoothly drive itself 90% of the time). Ideas are organized logically with a clear beginning, middle and end. Transitions between paragraphs are rough but typically include topic sentences (This in turn allows for the car to operate safely. Driverless cars are also very safe). Vocabulary is appropriately chosen and the varied sentence structures include some complex sentences. Overall, the response represents a good performance, but would need more development or a more sophisticated writing style to receive a score higher than a Score Point 4 in Writing.

Language Conventions - 4 pts

This response demonstrates superior command of capitalization, spelling, punctuation and sentence structures with occasional first-draft errors (the [they] are starting to become a reality). The usage errors do not impede the flow of communication (The makers of this car had [have] added position-estimating sensors . . .). This response earns a Score Point 4 in Language Conventions.

Student Response 8

Steering wheels are a thing of the past, driverless cars are on the horizon and here's how they are going to take storm. I support driverless cars for many reasons one being that an average of one in eighty people die in car crashes, that odd could be greatly reduced if not diminished when driverless cars are the norm. Not only are driverless cars great for safety but they can cut emissions and reliability on gas and oil by half, according to Google's co-founder Sergey Brin. Driverless cars can help people of all issues and backgrounds, from an aid to drunk people, to helping out a person with a disability and even the elderly, driverless cars can do it all. Driverless cars are creditable for having driven over half a million miles without a crash. Driverless cars can do it all, but safety is their main priority.

BMW's project manager, Werner Huber, believes that with driverless cars and driver assistance could bring way to new in-car entertainment and information systems. He believes that this could reduce the likelihood of texting and driving and other distractions which would help aid AT&T's message to put the phone down. As stated before the odd of death in a car crash is about a one in eighty chance, that being said with the implementation of new legislation for driverless cars could lower this odd and help people out who can't drive anymore.

Auto driving cars and assisted driving cars could also make it easier for people with disabilities get around to where they need to go on their own without having to get specialized vehicles. With no gas or brakes and no steering wheel, automated cars would also help people of younger age and older with only the need to know of where you're going there is no fear of falling asleep at the wheel or drunk driving. Driverless cars can help solve some of America's biggest problems, and it's just on the horizon.

With the cost of gas rising and foreign oil dependency, the antidote to the growing venom in America's veins is just around the corner, with the veins being the roads and the antidote being driverless cars. Not only are tensions rising in the Middle East, but an on going oil war is happening and America is sucked into it because, basically we just need the oil. With driverless cars needing half the amount of fuel of a regular car, we can see that this would reduce the need of foreign oil and pull the US out of the middle east. With Tesla motors growing and green energy uprising, driverless cars will more than likely turn to battery power. Tesla motors along with BMW and Toyota are on the cutting edge of green technology with BMW's i8 electric car, Toyota's Prius Hybrid car and every Tesla car running electric, we can see that not only could this cut the fuel usage by half, but it could cut it out completely. No need to worry about gas prices when your car doesn't need to go to the pump and fill up.

The only thing holding back the advancement of driverless cars is the law, almost every state has a law prohibiting driverless cars and it is the kryptonite to the rising industry. Some states have taken notice and allowed limited usage of driverless cars, but many lawmakers make the point that who is to blame when a crash happens. The answer to that problem is simple and one already in use today, who is to blame when the airbags aren't deployed or something fails in a normal car? the car manufacturer, and this is simply no different. Yes, there will be recalls on the cars and things will go

wrong, but its something that already happens in todays cars and it will more than likely happen in the advancement of driverless cars. So I disagree with the fact that a safe car is a car with a human driver because they could have so many factors play in that makes them not up to the challenge of driving such as drunk driving, falling asleep or a health emergency, all of which can be solved by driverless cars.

Ive covered multiple reasons to use driverless cars, they can eleminate drink drivers, help the elderly get to their doctors appointments without them having to drive and reduce the odds of death in a car crash. They will cut the usage of gas and oil by half and could potentially cut it all the way with car manufactures starting to make battery powered cars and reduce our foreign oil dependence. Ive also stated the solution to the lawmakers problem with driverless cars. I support driverless cars so that one day we won't have the problems that we do today and to make a better society. Why take the wheel when you have a system that can do it for you and do it better than you, safer than you and more efficent than you? Wouldnt you like to get in a nice powernap on the way to work? If so then say yes to driverless cars!

Writing - 4 pts

This lengthy response accomplishes the task by presenting a generally unified theme (Driverless car can help people of all issues and backgrounds. . .) supported with details and facts. Organization is mostly logical, and transitions within paragraphs are weak. The attempt to establish an original voice is sometimes ineffective (the antidote to the growing venom in Americas veins, with the veins being the roads and the antidote being driverless cars). Holistically the response fits a Score Point 4.

Language Conventions - 3 pts

There are frequent errors in spelling (saftey, specilized, manufactuer), punctuation (heres, youre, Ive), and capitalization. Occasional run-on sentences and missing words have a minor impact on the flow of communication, earning this response a Score Point 3 in Language Conventions.

Student Response 9

Do you think it'd be safer to have a driver-less car. Driverless cars aren't a good idea I think because for kids in the future they won't be able to learn how to drive. I think it's safer having a human driver not the car driving its self.

I don't like the idea because I'm learning how to drive and feel safe being the driver. I don't like thinking about not being able to drive my car or vehicle. I personally feel nervous about the idea of driverless cars because people have been driving for thousands of years and why change it.

If we get driverless cars how would teens learn how to drive to their license. The cars wouldn't be teaching them anything if the car drives its self. Teens learning to drive want the full satisfaction that they are in control of the car not the car in control of them.

I feel safer with a human driver. If the driverless car has a problem and has a wreck or some thing. If the car has a manufactured part or something I don't think a mechanic to fix it.

My conclusion is why take away our love of driving just to be lazy and get a driverless car. People wanna be lazy now a days it's unfeal but taking away driving is unfair.

Writing - 3 pts

This response explores a few ideas, but the development is often limited and topics are sometimes repeated (I don't like the idea because I'm learning how to drive and feel safe being the driver . . . If we get driverless cars how would teens learn how to drive . . . I feel safer with a human driver). There is an attempt to organize ideas logically, as well as an attempt to transition from paragraph 2 to paragraph 3 (. . . people have been driving for thousands of years and why change it. If we get driverless cars how would teens learn . . .). The vocabulary is basic, but the sentences sometimes vary, which demonstrates some awareness of an audience. Holistically, this response minimally accomplishes the task and earns a Score Point 3 in Writing.

Language Conventions - 3 pts

While there are a few errors in capitalization (i) and spelling (wanna, liecense), the response demonstrates mostly good control of sentence structure, vocabulary, punctuation, and paragraphing. Overall, errors have a minor impact on the flow of communication and this response earns a Score Point 3 in Language Conventions.

Student Response 10

Driverless cars are still a long time away from being an everyday thing. They are still on their way and they will be here before we know it. Driverless cars can offer a safer and easier way of transportation for people without access to a vehicle of their own. Driverless cars are a great idea for the future.

Driverless cars can take the human aspect out of driving completely. Human error is the cause of a large majority of car accidents. Driverless cars would completely eliminate the possibility of human error. Without humans at the wheel the roads would be much safer for everyone.

Driverless cars would be much easier and more efficient than drivable vehicles. If all cars were automatically driven there would be no need for people to get a drivers liscense. It would be cheaper for people who don't have the money for a car of their own. City traffic doesnt allow everyone to own a car, the roads couldn't support that kind of traffic. If cars were automatic they could avoid causing traffic jams using alternative routes. It would be much easier on law enforcement who are the people who have to monitor all of the roads for unsafe drivers. This would cut back millions in tax dollars used on law enforcement.

Driverless cars are a great plan for the future. I dont see any downsides to a perfected driverless car. With safety in mind driverless cars would be the best thing that could come in the future. They would be easier for everyone to get to their destination quickly and safely.

Writing - 3 pts

This response attempts to unify the argument with a main idea (Driverless cars are a great idea for the future) and organizes the ideas with a beginning, middle and end. The development of the ideas, however, is uneven and uses few details. The word choice is functional, but the sentence structures are often repetitive; six sentences begin with the words "Driverless cars" followed by an "are," "can" or "would." The response demonstrates little sense of audience. Overall, the response minimally accomplishes the task and earns a Score Point 3 in Writing.

Language Conventions - 3 pts

Though there are occasional spelling errors (liscense) and missing apostrophes (doesnt; dont), the writing exhibits good control of language skills. The sentences may lack commas, but most sentence structures are solid, avoiding both fragments and run-ons. Errors have minor impact on the flow of communication. Holistically, this response earns a Score Point 3 in Language Conventions.

Student Response 11

For generations people have watched futuristic movies, hoping that one day these new additions to our society would actually accure. It's entertaining to watch that on television, but it's not right for reality. Majority of people would adore having a driverless cars that they didnt have to do anything but ride along. This isn't what's best for people though, driverless cars are not a good asset to the community and should remain in people's television sets. Driverless cars can be dangerous and the driver still has to be alert to be able to take over the car if needed.

Driverless cars are great to hear about and watch on movies, but terrible for real life. If their was a technology malfunction it can be dangerous and put you and your loved ones into harms way. Who would take the blame for the accident? The driver for not staying alert or the car company because it promised the technology required to power this car successfully was secure, and actually was not secure. That concern is mentioned by the author in paragraph 9; it writes, "If the technogoly fails and someone is injured, who is at fault--the driver ot the manufacturer?" This would need assistance from law makers and insurance companies. in Paragraph 7 it mentions how the "driver" would need to be able to be alert to control the car if needed. It states, "... the human driver must remain alert and be ready to atake over when the situation requires." This illistrates how the car still needs a human to control it. since the car still needs a human for control is it really even driverless?

Driverless cars are dangerous to the community and just a huge stunt performance. Driverless cars belong in televsion not in the real world. Driverless cars can be dangerous and the actual driver would have to remain alert in case the car needed a humans assistance. The car wouldnt be able to hold to standrards and that can cause lives.

Writing - 3 pts

The response minimally accomplishes the task by presenting only one idea and supporting it with facts and details. While transitions are minimal, the response is logically organized with a strong beginning, middle, and end framed around the theme of "futuristic movies." There is an attempt at varied sentence structure, but most sentences are simple and vocabulary is basic (Majority of people would adore, just a huge stunt performance). There is an attempt at an original perspective and a style that is appropriate. This response earns a Writing Score of 3.

Language Conventions - 3 pts

There are errors in capitalization (in, since), spelling (accure, illistrates), and punctuation, but they are of the first-draft variety and have minor impact on flow of communication. There are occasional grammar errors (their, a

Student Response 12

I disagree with the making of driverless cars and i beleive that they should not be made or put in car lots to sale.

The reason I disagree with making a driverless is because cars are mostly made for the person to drive and to automatically drive or assist, and some stuff that is automatically made can mess up and break down in many ways, in the article it says,"if the technology fails and someone is injured,who is at fault?"as in the quote its saying if the smart car had gotten into a accident with another person nobody would know who's responsible for the incident they just know both cars have crashed.

Also, it would make the driver even less interested and safe becuae if the driver was driving a smart car and gotta message or got bored it would make it more unsafe for the driven the, it states in the passage,"we have to interpret the driving fun in a new way.

In conclusion, i disagree with the driverless smart car being manufactured because its not yet safe or interesting to drivers.

Writing - 3 pts

The response minimally accomplishes the task by including only a few details and providing a brief explanation. The development of ideas is helped by a logical organization of an introduction, body, and conclusion; however, the introduction and conclusion are weak. The response contains basic vocabulary and is generally fluent, but attempts to use more varied sentence patterns are not successful. There is an attempt at an argumentative voice, but the effect is minimal. The student would receive 3 points for writing.

Language Conventions - 2 pts

The response demonstrates fair control of language usage. Errors occasionally impede reading. Run-on sentences, spelling errors (beleive, becuase), capitalization errors (it says, "if the technology fails," and i believe), grammatical errors (put in car lots to sale), and punctuation errors impact the score because of their proportion to the overall length of the response. The student would receive 2 points for grammar usage.

Student Response 13

MY OPINION ON DRIVERLESS CARS IS THAT I DO NOT THINK THAT WE SHOULD HAVE THEM I REALLY DO NOT LIKE THE IDEA OF THEM THEY DO NOT SOUND VERY SAFE TO ME THEY SOUND LIKE THEY COULD BE A SAFESTY ISSUE. I DONT LIKE THE IDEA OF MY CAR DRVCING FOR ME IT DOES NOT SOUND LIKE IT WOULD BEEN FUN FIRST OF ALL WHY DO YOU NEED YOUR CAR TO DRIVE FOR YPU ALL YOU HAVE TO DO IS GET IN PUT THE KEYS IN TO THE INGI9TON PUT IT IN GEAR AND GO ITS JUST THAT EASY AND I DONT KNOW WHY ITS THAT HARD THERE IS NO POINT TO HAVE A VECHILE DRIVE FOR YOU BECASUE WHAT IF THERE IS AN EMERGENCY AND THEN YOU CAN NOT STOP YOUR CAR THEN WHAT YOU DO IS KILL SOMONE BECAUSE YOU COULD NOT GET YOUR CAR TO STOP THAT WOULD NOT BE SAFE AND I CAN TELL YEAH THAT ONCE YOU GOT GOING ABOUT 80 ON THE HIGH WAY AND SOMEONE STOPS IN FRONT OF YOU AND OR SOMEONE GETS INTO A RECK THEN YOU WILL GET INTO A RECK TO BECASUE IT IS HARD TO STOP A CAR 2000 POUNTS OR HEAVYER GOING 80 I MEAN YOU MIGHT GET IT TO SLOW DOWN PRETTY GOOD BUT I DONT KNOW HOW YOU WOULD STOP IT JUST SOUNDS PLAIN AND SIMPLE DANGEROUS.

WELL IT SAYS IN THE ARTICAL THAT BMW HAS BEEN WORKING ON THIS TECKNOWLEDY THAT THEY HAVE BEEN TRYING TO MAKE IT SO THEY CAN MAKE A CAR AND IT WILL WORK AND DRIVE ON ITS OWN FOR THEM. I THINK THAT PEOPLE WANT EVERYTHING TO BE ELECTRONIC THAT IT IS BETTER WHEN YOUR ON A PHONE I PAD LAPTOP TV BUT WHAT HAPPENS WHEN SOMTHING LIKE THAT MALFUNCTIONS WHEN IT STOPS AND THEN WHAT YOU DO YOU CANT FIX SOMTHING LIKE THAT VERY EASLY USALLY BUT HOW WOULD U FIX THAT I MEAN ITS PRETTY SIMPLE. WHEN YOU HAVE A PERSON MOST OF THE TIME THEY ARE PAYING ATTENTINON BUT MOST OF THE TIME THEY MAY NOT BE TO THERE IS A LOT OF STUFF THAT SOUNDS WRONG OR THAT COULD GO WRONG IM MEAN CERTAIN THINGS CAN CREAT A MESS REAL FAST I MEAN WHAT IF YOU WERE TO GET IN A WRECK OR BE GOING FAST DOWN A BUSY ROAD AND A PERSON WALKES OUT IN FRONT OF YOU WHY WOULD YOU HAVE TO DEAL WITH THAT WHEN COULD OF EASYLY OF AVOIDED IT. THERE IS ALWAYS A LOT THAT COULKD GO WRONG WHEN DEALING WITH ELECTRONICS. I WOULD HATE TO BE THE PERSON WHO GETS RAN OVER BECAUSE A SELF DRIVING CAR THOUGH I WAS A TRAFFIC CONE.

WELL IN THE END I THINK THEY SHOUL LEAVE TECKNOWLEGE ALONE FOR A WHILE I MEAN IT IS SO GOOD NOW THAT THEY ARE CREATING A 3D PRINTER THEY ARE MAKIN ALL KIDS OF STUFF WITH THOSE. AND DONT WE AREADY SORT OF HAVE SELF DRVING CARS LIKE THE TESELA AND CADDILAC SO WHY DO YOU NEED TO IMPROVE ON MORE CARS JUST GET THE ONES WE HAVE IT ON NOW AND JUST LEAVE OTHER CARS BY THEM SELVES WHY SHOULD YOU TAMPER WITH CARS THAT MAY OR MAY NOT BE SAFE FOR PEOPLE

Writing - 3 pts

This response minimally develops a main idea by exploring a few reasons why driverless cars should not be developed and supports this with details and facts. There is an attempt to logically organize, with a beginning, middle, and end, but transitions between paragraphs are weak. The writing demonstrates some difficulty with fluency that is typically characteristic of a lower score point. Reading around the lack of punctuation results in mostly simple sentence structure, with more complex sentences less clearly readable. There is some control of vocabulary. Voice is evident through a tone that is mainly appropriate to the task. The student would receive 3

Language Conventions - 1 pt

There is minimal control of language skills with serious, numerous errors. Control of capitalization is impossible to discern since the response is written entirely in caps. Frequent errors include spelling (couold, tecknowledy, artical) and lack of punctuation resulting in extensive run-on sentences. The lack of punctuation impedes the flow of communication since the reader must pause in order to determine the ends of sentences. The student would receive 1 point for grammar

Student Response 14

About The Driverless cars
I'm against the Idea of it.
I Think The Human should be
driving at all Times. There
are different consequences about
driverless cars. Driverless cars
are gonna cause alot of
problems every where. The Things
That could go bad with Driverless
cars are, If it happens to wreck
The human is held responsible.
Why I Think We shouldnt
have driverless cars is because
I want to drive just to be sure I
know what I'm doing.

Driverless cars also hold a
Threat If somones in it
and The car is driving in the
morning. The operator could fall
asleep and want wake up when
The car is giving it The warning
a a Traffic ~~wreck~~ and The
cars just Drive into it and
Crash. That's what I Think about
Driverless cars.

Writing - 2 pts

The response partially accomplishes the task by presenting two ideas in the form of topic sentences (I'm against the Idea . . . Driverless cars also hold a Threat). The development of those ideas, however, is minimal. While there is an attempt at an introduction and conclusion, organization is minimal due to the limited progression of idea. Vocabulary is limited and sentence patterns lack fluency (Driverless cars are gonna cause alot of problems every where. The Things that could go bad with Driverless cars are, If it happens to wreck The human is held responsible). This response earns a Score Point 2 in Writing.

Language Conventions - 2 pts

Though sentences are often confusing, this confusion is caused by the lack of fluency, rather than the errors in punctuation. The response mostly avoids sentence fragments and run-ons. Errors in capitalization, grammar, and spelling, however, occasionally impede the flow of communication and earns this response a Score Point 2 in Language Conventions.

Student Response 15

I think driverless cars are in our future but i wont be riding in one. Personally i like driving, im not old enough to have my lisenice but i for sure look forward to being behind the wheel. I think id rather drive then sit in a car that drives it self, n that i have to trust. Even car wrecks happen often i think there would be a rise in car wrecks do to the tecnogly in cars.

Why would anyone want a car that still needs a driver? I think people would just be waiting for their turn. A car not needing your assistants to go down the road just seem unsafe&scary i think with driverless cars there will deffiently be more wrecks.

i think if driverless cars become the future, there will be a rise in car accidents. i feel like prices of gass for the non buyers will go up. i dont think driverless cars are a good investment at all

Writing - 2 pts

This response attempts a main idea (I think driverless cars are in our future but i wont be riding in one.); however, the development of that argument contains minimal details (people would just be waiting for their turn [to drive], A car not needing your assistants to go down the road just seem unsafe). The organization lacks transitions and topics are repetitive, reflecting a lack of focus. Overall, this response only partially accomplishes the task, and earns a Score Point 2 in Writing.

Language Conventions - 2 pts

Errors in capitalization (i, im), spelling (lisenice, deffiently), and punctuation are frequent and occasionally impede the flow of communication; however, the response does demonstrate fair control of paragraphing and the proper use of a comma in compound sentence structures, earning this response a Score Point 2 in Language Conventions.

Student Response 16

I feel like GM has developed driver's seats that they know what they are doing on the job. At GM they give you a heads-up display about ever thing they have.

Writing - 1 pt

This response demonstrates considerable difficulty developing and organizing ideas. While there are attempts to provide details (GM has developed driver's seats . . . they give you a heads up displays) the topic remains mostly unexplored. The response is also too short to demonstrate a style or establish a writer's voice, earning this response a Score Point 1 in Writing.

Language Conventions - 1 pt

The response demonstrates minimal control of punctuation, sentence structure, and grammar. While there is fair control of spelling and capitalization, the brevity of the response with the other errors prevents it from being more than a score point 1.

Student Response 17

Driverless cars, could be a very great idea for lots of people who don't want to drive or who couldn't drive in the article it said wat driver needs a driverless car people that are not able to drive should want a driverless car although it could cause less accidents, but who would want a car that doesn't go as fast as u want it or do anything u want it to do driverless cars should only be made for people who arn't able to drive but what if somewhone who can drive needs to pull out an drive way or is becoming close to traffic issues and there not able to do anything.

Writing - 1 pt

This response fails to accomplish the task of developing an argument for or against driverless cars (Driverless cars, could be a very great idea for lots of people . . . but who would want a car that doesn't go as fast as u want it or do anything u want it to do). The organization is difficult to follow and the response demonstrates a lack of audience awareness throughout the response, earning a Score Point 1 in Writing.

Language Conventions - 1 pt

The writing in this response exhibits minimal control of punctuation, spelling, grammar, and sentence structure. The errors are both serious and numerous and earn this response a score point 1 in Language Conventions.

Student Response 18

I would like to have a driverless car in the future. Why? First, it saves you money. Last, it would be more safe.

Im going to start off by telling you the good things abput the driveless cars. Well first of all they you will save money cause it wouldn't be lot of gas. Its safe cause it has cameras

Writing - 1 pt

The response is clearly connected to the task and provides an introduction with related ideas, but there is no development of ideas. The response is too brief to exhibit a writing style. Holistically, the response is a Score Point 1.

Language Conventions - 1 pt

While the response demonstrates fair control of sentence structure, there are punctuation errors (Im, Its) spelling errors (abput, driveless), and usage errors (cause, lot). The proportion of errors to the overall length of the response results in a Score Point 1.