## Ivy Global

## New PSAT 3 Practice Tests



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## Questions 39-47 are based on the following passage.

The following is adapted from a speech given by Emma Goldman in 1917, as the United States was entering World War I. Goldman was a political activist and anarchist active in the early twentieth century. In this speech, entitled "Against Conscription and War," Goldman is responding to the conviction of two men for obstructing the draft.

Of course, friends, of course since the war was declared by a country in whose interest it is that the American boy shall be sacrificed it was not to the therefore conscription had to be imposed upon you. Don't you know that during the Spanish-American War when the people believed in the war there was no need of asking the young men of the country, at the point of the bayonet and gun and club, to put on an American uniform? They flocked to the war because they believed in it. And whether they were American citizens or were residents of America, the people of America were all willing to give their lives for something they considered right and just. But because the people of America do not believe in this war, because the people of America have not been asked whether there shall be war, that is why they do not flock to the colors and that is why you in America are doing as the Russians used to do, as the German Kaiser is doing, as all the Imperialistic tyrants are doing. But you are forgetting one thing, gentlemen of the law, you are driving a horse to water but you cannot compel him to drink. You will put the young manhood of America in the uniform, you will drag them to the battlefield and into the trenches, but while they are there, there is going to be a bond of anti-militarism among the people of the world.

No, friends, you cannot compel human beings to take human life, if you give them the chance to reason and to think, to investigate and to analyze.

And now we come down to the tragedy that was committed in the United States Court in the State of New York yesterday, when two boys were sentenced. It is not only a tragedy because they were sentenced. Such things happen every day; hundreds, thousands of innocent working men are sent to the prison and the penitentiary, thousands of unfortunates throughout the world as well as here in so-called free America and nobody ever hears anything about it. It is an ordinary, commonplace thing to do. But the tragedy of yesterday is in the fact that a Judge, supported as you have been told by your money, protected by public opinion, protected by the President, the tragedy of it is that that Judge had the impudence and audacity to insult Kramer and Becker after he gave them the sentence of such horrible dimensions. Think of a man like that who sits there in judgment on other human beings. Think what must be his character, what must be his mind, what must be his soul, if he can spit human beings in the face, only because he has got the power.

I wish to say here, and I don't say it with any authority and I don't say it as a prophet, I merely tell you-I merely tell you the more people you lock up, the more will be the idealists who will take their place; the more of the human voice you suppress, the greater and louder and the profounder will be the human voice. At present it is a mere rumbling, but that rumbling is increasing in volume, it is growing in depth, it is spreading all over the country until it will be raised into a thunder and people of America will rise and say, we want to be a democracy, to be sure, but we want the kind of democracy which means liberty and opportunity to every man and woman in America.

39
The tone of the passage is best described as
A) joyous.
B) frightened.
C) apathetic.
D) zealous.

## 40

Goldman is most likely addressing
A) a judge at the author's own trial.
B) a group of people at a protest.
C) an unsympathetic press.
D) a crowd of politicians she is seeking to sway.

41
Why did Goldman bring up the trial of the two workingmen?
A) She wanted to show how judges have too much power to determine sentences in America.
B) She hoped to convince her audience that not all anarchists are as troublesome as the two workingmen.
C) She offered the trial as proof of her claim that American authorities were acting tyrannically and oppressively.
D) She wished to raise funds and support for the defense of Kramer and Becker.

## 42

Which choice provides the best evidence for the answer to the previous question?
A) Lines 36-41 ("Such things ... it")
B) Lines 42-48 ("But the ... dimensions")
C) Lines 49-52 ("Think what ... power")
D) Lines 59-66 ("At present ... America")

## 43

Which of the following best represents Goldman's views on America's participation in WWI?
A) It is unacceptable because the American people do not believe in the cause.
B) It is unfortunate but necessary, since sacrifices must be made for peace.
C) It is unfair because the government cannot conscript individuals, who alone have the right to fight and bear arms.
D) It is welcome as long as individuals understand the reasons for their participation.

## 44

Which of the following provides the best evidence for the answer to the previous question?
A) Lines 6-10 ("Don't you ... uniform")
B) Lines 14-21 ("But because ... doing")
C) Lines 48-49 ("Think of ... beings")
D) Lines 53-59 ("I wish ... voice")

45
As used in line 46, "audacity" most nearly means
A) rudeness.
B) fearlessness.
C) bravery.
D) gall.

## 47

As used in line 57, "suppress" most nearly means
A) stifle.
B) conquer.
C) withhold.
D) control.

## 46

Goldman condemns the judge in the passage mostly because he
A) condemned and then insulted two innocent people.
B) sentenced the two people without waiting for all the relevant facts.
C) assaulted the two people after the trial.
D) does not exhibit appropriate moral or spiritual values.

## STOP

If you complete this section before the end of your allotted time, check your work on this section only. Do NOT use the time to work on another section.

# Math Test - Calculator <br> 45 MINUTES, 31 QUESTIONS 

Turn to Section 4 of your answer sheet to answer the questions in this section.

## DIRECTIONS

Questions 1-27 ask you to solve a problem, select the best answer among four choices, and fill in the corresponding circle on your answer sheet. Questions 28-31 ask you to solve a problem and enter your answer in a grid provided on your answer sheet. There are detailed instructions on entering answers into the grid before question 28. You may use your test booklet for scratch work.

## NOTES

1. You may use a calculator.
2. Variables and expressions represent real numbers unless stated otherwise.
3. Figures are drawn to scale unless stated otherwise.
4. Figures lie in a plane unless stated otherwise.
5. The domain of a function $f$ is defined as the set of all real numbers $x$ for which $f(x)$ is also a real number, unless stated otherwise.

## REFERENCE


$A=\frac{1}{2} b h$

$a^{2}+b^{2}=c^{2}$


Special Triangles

$V=\frac{1}{3} l w h$

$V=\frac{1}{3} \pi r^{2} h$

$A=l w$

$V=l w h$

$V=\pi r^{2} h$

$C=2 \pi r$


There are $360^{\circ}$ in a circle.
The sum of the angles in a triangle is $180^{\circ}$.
The number of radians of arc in a circle is $2 \pi$.

1
If $2(-3 x+c)=\frac{-3\left(2 c^{2}+c x\right)}{c}+5 c$, what is the value of $x$ in terms of $c$ ?
A) $-\frac{c}{2}$
B) $\frac{c}{2}$
C) $c$
D) $2 c$

2
The mean of a set of 6 integers is 30 . When one of the numbers is removed, the new mean is 34 . What was the number that was removed?
A) Four
B) Five
C) Eight
D) Ten

3


The function $y=x^{2}-5 x+6$ is graphed in the figure above. What is the $y$-intercept?
A) 2
B) 3
C) 5
D) 6

## 4

A linear function $f(x)$ passes through the origin $(0,0)$ and the point $(3,1)$. What is the value of $f(x)$ when $x=6$ ?
A) 2
B) 3
C) 6
D) 9

13


According to the graph above, how many companies saw an increase in stock price from 2010 to 2011?
A) 4
B) 5
C) 6
D) 7

## 14

On a test, each correct answer is worth 2 points and each incorrect answer or unanswered question reduces the score by 1 point. If the test has 45 questions and a final score of 45 is calculated, how many questions are answered correctly?
A) 15
B) 30
C) 40
D) 45

15
Container C can hold 70 milliliters of fluid. If the container is filled and dumped on the ground at a rate of 60 times per minute, how much fluid will fall to the ground in 5 minutes?
A) 18 L
B) 20 L
C) 21 L
D) 24 L

16
If $x+y=9$ and $x^{2}+y^{2}=45$, what are possible values for $x$ ?
A) $x=6, x=3$
B) $6>x>3$
C) $x=6, x=-3$
D) $3>x \geq-6$

## 17



The functions $y=-x^{2}+4$ and $y=2 x+1$ are graphed above. What is the value of $a b$ ?
A) -9
B) -3
C) 3
D) 15

18
The sum of two integers is twice their difference.
If one of the integers is 6 , which of the following is a NOT a possible value for the other integer?
A) 2
B) 12
C) 18
D) The value cannot be determined.

19

| Rules for a Card Game |  |
| :---: | :---: |
| Card Type | Number of Points |
| Odd | Multiply number on card by 2 |
| Even | Multiply number on card by 3 |

In a card game, Jenny draws three cards from a deck of ten unique cards labeled 1 through 10 . The number of points for each card is calculated using the rules listed above and added together for the total score. If Jenny has a total score of 48 , and two of her cards are 3 and 6 , which of the following must have been her third card?
A) 2
B) 4
C) 6
D) 8

20
A random integer is selected from 1000 different integers from 1 to 1000 . What is the probability that the integer is divisible by both 3 and 5 ?
A) $\frac{3}{50}$
B) $\frac{13}{200}$
C) $\frac{33}{500}$
D) $\frac{67}{1000}$

## 21

| Stock Prices of Three Companies |  |  |
| :---: | :---: | :---: |
|  | 2010 | 2011 |
| Company A | $\$ 50.25$ | $\$ 51.75$ |
| Company B | $\$ 35.80$ | $\$ 37.80$ |
| Company C | $\$ 46.90$ | $\$ 49.40$ |

The table above shows the stock prices for three companies during the years 2010 and 2011. Which company had the greatest percent increase in stock prices from 2010 to 2011?
A) Company A
B) Company B
C) Company C
D) Companies B and C shared the highest increase in stock prices.

22


The fruit fly, Drosophila melanogaster, has an astonishing rate of reproduction. In a controlled experiment, biologists introduce 20 flies into a habitat. They chart the number of flies in the area every 12 hours, as shown above. Which of the following is NOT correct?
A) The rate that flies are being born fluctuates as time progresses.
B) The period of largest growth occurred between 36 and 48 hours.
C) Based on the line of best fit, a good prediction for the number of flies at 84 hours is 350 .
D) The number of flies grew quickly for the first half of the experiment and then grew less quickly as time progressed.

## 23

| System of Integers and Their Values |  |
| :---: | :---: |
| Number of Integers | Value per Integer |
| 1 | $3 d$ |
| 3 | $e$ |
| 6 | $f$ |

There are five groups of numbers. Three of these groups contain single integers, one group contains three integers, and one group contains six integers. The mean value of each size of group is shown in the table above. What is the mean value of the integers in all of the groups?
A) $d+e+2 f$
B) $3 d+3 e+6 f$
C) $9 d+3 e+6 f$
D) $\frac{3 d+e+2 f}{4}$

## 24

Event $v$ occurs $28 \%$ of the time on Tuesdays, and event $v$ and event $w$ occur together $19 \%$ of the time on Tuesdays. Given that event $v$ occurs on a Tuesday, what is the probability that event $w$ occurs with event $v$ ?
A) $47 \%$
B) $58 \%$
C) $68 \%$
D) $75 \%$

25

$$
\begin{gathered}
g(2 x+1)=4 g(x)+x+1 \\
g(1)=3
\end{gathered}
$$

Two values for $g(x)$ are defined above. What is the value of $g(3)$ ?
A) 10
B) 14
C) 18
D) 22

## 26

The average of a set of four numbers is $x$. When a fifth number is added to the set, the average of the numbers is $x+2$. In terms of $x$, what is the number that was added?
A) $x+2$
B) $x+5$
C) $x+8$
D) $x+10$

## 27

$$
y=-(x+2)^{2}+9
$$

The parabola with the equation shown above has $x$ intercepts of $(a, 0)$ and $(b, 0)$. What is $|a+b|$ ?
A) 2
B) 4
C) 5
D) 6

# Reading Test 

## 60 MINUTES, 47 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

## DIRECTIONS

Every passage or paired set of passages is accompanied by a number of questions. Read the passage or paired set of passages, then use what is said or implied in what you read and in any given graphics to choose the best answer to each question.

## Questions 1-9 are based on the following passage.

This passage is adapted from a speech delivered by President William Jefferson Clinton. The speech was given to Congress as his State of the Union Address in 1998.

Because of the hard work and high purpose of the American people, these are good times for America. We have more than 14 million new jobs, the lowest unemployment in 24 years, the lowest core inflation in 30 years. Incomes are rising, and we have the highest homeownership in history. Crime has dropped for a record five years in a row and the welfare rolls are at their lowest level in 27 years. Our leadership in the world is unrivaled. Ladies and gentlemen, the state of our union is strong.

But with barely 700 days left in the 20th Century, this is not a time to rest; it is a time to build, to build the America within our reach.

An America where everybody has a chance to get ahead with hard work. Where families are strong, schools are good, and all our young people can go on to college. An America where every child can stretch a hand across a keyboard and reach every book ever written, every painting ever painted, every symphony ever composed. An America which leads the world to new heights of peace and prosperity.

This is the America we have begun to build; this
is the America we can leave to our children if we join together to finish the work at hand.

Rarely have Americans lived through so much change, in so many ways, in so short a time. Quietly but with gathering force, the ground has shifted beneath our feet, as we have moved into an Information Age, a global economy, a truly new world. The Information Age is first and foremost an education age in which education must start at birth and continue throughout a lifetime.

Last year from this podium I said that education has to be our highest priority. I laid out a ten-point plan to move us forward and urged all of us to let politics stop at the schoolhouse door. Since then, this Congress, across party lines, and the American people have responded in the most important year for education in a generation, expanding public school choice, opening the way to 3,000 new charter schools, working to connect every classroom in the country to the information superhighway, committing to expand Head Start to a million children, launching America Reads, sending literally thousands of college students into our elementary schools to make sure all our 8 -year-olds can read.

Last year I proposed and you passed 220,000 new Pell Grant scholarships for deserving students. Student loans are already less expensive and easier to repay. Now you get to deduct the interest.

Families all over America now can put their savings into new tax-free education IRAs. And this year for the first 2 years of college families will get a $\$ 1,500$ tax credit, a Hope Scholarship that will cover the cost of most community college tuition.

And because of these actions, I have
something to say to every family listening to us tonight: your children can go on to college. Because of the things that have been done, we can make college as universal in the 21 st century as high school is today. And, my friends, that will change the face and future of America.

We have opened wide the doors of the world's best system of higher education. Now we must make our public elementary and secondary schools the world's best as well by raising 70 standards, raising expectations, and raising accountability.

1
Clinton's tone is best described as
A) serene.
B) anxious.
C) optimistic.
D) arrogant.

## 2

Clinton supports the assertion that the country is thriving by
A) listing sections of his previous ten-point development plan that have finally been realized.
B) listing facts and figures that compare the present with other times in the nation's history.
C) sharing a personal anecdote of how his own life has improved within the past year.
D) appealing to his listeners' emotions by discussing the impressive history of the nation.

## 3

Which choice provides the best evidence for the answer to the previous question?
A) Lines 7-9 ("Crime has ... years")
B) Lines 12-14 ("But with ... reach")
C) Lines 24-26 ("This is ... hand")
D) Lines 53-54 ("Families all ... IRAs")

## 4

In lines 19-21, why does Clinton describe an America where every child can "reach every book ever written, every painting ever painted, every symphony ever composed"?
A) He wants to emphasize the importance of the humanities, and not just the sciences, in the new education system.
B) He is concerned about falling literacy rates among the youngest members of the population and hopes computers can help.
C) He fears changes in the Information Age will make students less likely to seek out cultural knowledge and experiences.
D) He is looking forward to a time when children will have unprecedented access to information to further their education.

5
As used in line 29, "force" most nearly means
A) violence.
B) influence.
C) momentum.
D) dynamism.

## 6

According to the passage, which of the following best expresses the relationship between education and the Information Age?
A) Education and the Information Age will grow in tandem.
B) Education is a necessary prerequisite for the Information Age.
C) Education and the Information Age are mutually exclusive.
D) Breakthroughs in education have led to the Information Age.

## 7

Which choice provides the best evidence for the answer to the previous question?
A) Lines 32-34 ("The Information ... lifetime")
B) Lines 49-50 ("Last year ... students")
C) Lines 62-64 ("Because of ... today")
D) Lines 67-71 ("Now we ... accountability")

## 8

In the passage, Clinton's use of the phrase "let politics stop at the schoolhouse door" (lines 37-38) is meant to convey the idea that
A) while Congress should legislate on access to education, they should refrain from legislating on curricula.
B) politicians should refrain from visiting schools during election season to avoid improper influence.
C) Congress should pay attention to education when coming up with an agenda for the year.
D) members of Congress should not let political differences prevent them from working together on education reform.

## 9

According to the passage, one reason college will be within reach for many students is because
A) student loans have been universally forgiven by the Pell Grants.
B) new Hope Scholarships will cover the entire cost of a college education.
C) interest on student loans is at an all-time low.
D) a new type of IRA will help families save for college.

## Writing and Language Test <br> 35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

## DIRECTIONS

Every passage comes with a set of questions. Some questions will ask you to consider how the writer might revise the passage to improve the expression of ideas. Other questions will ask you to consider correcting potential errors in sentence structure, usage, or punctuation. There may be one or more graphics that you will need to consult as you revise and edit the passage.

Some questions will refer to a portion of the passage that has been underlined. Other questions will refer to a particular spot in a passage or ask that you consider the passage in full.

After you read the passage, select the answers to questions that most effectively improve the passage's writing quality or that adjust the passage to follow the conventions of standard written English. Many questions give you the option to select "NO CHANGE." Select that option in cases where you think the relevant part of the passage should remain as it currently is.

## Questions 1-11 are based on the following passage.

## Sports Accounting: A Numbers Game

Everyone knows accountants and star athletes have nothing in common; one group crunches numbers while the other group crushes the competition. These 1 professions do however overlap in the business offices of the professional sports industry, where accountants play 2 an essential role behind the scenes, helping to make what happens on the field possible.

1
A) NO CHANGE
B) professions do, however, overlap
C) professions however do overlap
D) professions do. However, overlap

## 2

A) NO CHANGE
B) a fundamental
C) an imperative
D) an obligatory

## 2

## 2

[1] Beyond just tracking debits and credits, sports accountants perform such tasks as analyzing costs, developing budgets, creating financial statements, and more. [2] All sports franchises have accountants who are involved in every aspect of the financial life of the team. [3] One particularly complex task in the field of sports accounting is payroll. [4] Athletic contracts can be very complex, 3 with: incentives for high performance; bonuses for meeting specific conditions; and penalties for violating codes of conduct. [5] Overseeing the compensation of athletes can be a challenging task, but one component may be something sports accountants already love: tracking the stats of players on their favorite teams. 4

To qualify for a job as a sports accountant, a candidate needs a minimum of a four-year degree in accounting, though an additional degree, 5 such as an MBA degree, may provide an edge. That edge can help prospective accountants to land exactly the jobs they want, but there are many opportunities in the field. Every major team 6 need accountants and so does smaller teams and many private clubs. One potential dream job for the sports-fan accountant hoping for direct contact with a star athlete would be working with a sports agent or manager.

## 3

A) NO CHANGE
B) with incentives for high performance bonuses for meeting specific conditions and penalties for violating codes of conduct.
C) with; incentives, for high performance, bonuses, for meeting specific conditions, and penalties, for violating codes of conduct.
D) with incentives for high performance, bonuses for meeting specific conditions, and penalties for violating codes of conduct.

## 4

To make this paragraph most logical, sentence 2 should be placed
A) where it is now.
B) after sentence 3 .
C) before sentence 1 .
D) after sentence 4 .

## 5

A) NO CHANGE
B) such as an MBA
C) an MBA is an advantage
D) candidates with an MBA

## 6

A) NO CHANGE
B) need accountants, and so do
C) needs an accountant, and so does
D) needs an accountant, and so do

## 2

## 2

Accountants in general tend to be wellcompensated, so accounting is a practical choice for those who consider good compensation to be a high priority. Accountants in the spectator sports industry tend to accept slightly lower salaries on average than 7 their counterparts; in other corporate environments, 8 whereas it is still a very sensible choice. The Bureau of Labor Statistics reported that the average salary for all accountants was $\$ 68,000$ in 2011, while that of sports accountants in particular was \$70,000.

9 Anyone who gets to work in this field is in a fortunate position. The perks include tickets to games and the chance to rub elbows with elite athletes. Best of all, perhaps, 10 was that sports accounting provided an opportunity for sports fans to be a part of their favorite teams. For some people, that makes sports accounting an 11 acceptable profession.

## 7

A) NO CHANGE
B) their counterparts, in
C) their counterparts in
D) their counterparts in,

8
A) NO CHANGE
B) but
C) because
D) as

## 9

A) NO CHANGE
B) Beyond financial rewards, there are also other benefits to working as a sports accountant.
C) How much an accountant gets paid depends, to a large degree, on where they work.
D) Nearly every profession also has certain nonfinancial benefits.

10
A) NO CHANGE
B) is that sports accounting provides
C) was that sports accounting provides
D) is that sports accounting provided

11
A) NO CHANGE
B) awesome way to make a living
C) amazing gig
D) excellent career choice

## 2

## 2

## Questions 12-22 are based on the following passage:

## King Philip's War

In late January of 1675, a Native American who had taken the name John Sassamon disappeared. Sassamon, just weeks before, 12 he had met with the leader of the governor of the Plymouth Colony, Josiah Winslow. The purpose of this meeting was to warn Winslow that the Wampanoag chief Metacom (whom the English called "King Philip") was hoping to join forces with other Native American leaders to drive the English settlers out of New England. Winslow sent Sassamon away, certain that the warning was some kind of trick. Shortly after his disappearance, Sassamon's body was found submerged in an 13 icy pond based on the condition of his corpse, it was determined that he had been murdered. Within months, three Native American men were accused of, convicted of, and executed 14 by Sassamon's murder. Within weeks of the executions of the alleged murderers, King Philip's War began.

12
A) NO CHANGE
B) had met
C) he met
D) met

13
A) NO CHANGE
B) icy pond. Based on
C) icy pond and based on
D) icy pond, based on

## 14

A) NO CHANGE
B) of
C) through
D) for

## Questions 21-29 are based on the following passage.

This passage is adapted from a speech given in 1920 by lawyer and activist Crystal Eastman after the ratification of the 19th Amendment, which gave women the right to vote.

In fighting for the right to vote most women have tried to be either non-committal or thoroughly respectable on every other subject. Now they can say common with all the rest of the struggling world, is freedom.

What is the problem of women's freedom? It seems to me to be this: how to arrange the world so that women can be human beings, with a chance to 0 exercise their infinitely varied gifts in infinitely varied ways, instead of being destined by the accident of their sex to one field of activityhousework and child-raising. Second, if and when they choose housework and child-raising, to have 5 that occupation recognized by the world as work, requiring a definite economic reward and not merely entitling the performer to be dependent on some man.

This is not the whole of feminism, of course, but 2 it is enough to begin with. "Oh, don't begin with economics," my friends protest. "Woman does not live by bread alone. What she needs first of all is a free soul." I can agree that women will never be great until they achieve a certain emotional freedom,
25 a strong healthy egotism, and some un-personal sources of joy-that in this inner sense we cannot make woman free by changing her economic status. What we can do is to create conditions of outward freedom in which a free woman's soul can be born 30 and grow. It is these outward conditions with which an organized feminist movement must concern itself.

Freedom of choice in occupation and individual economic independence for women: how shall we approach this next feminist objective? First, by 35 breaking down all remaining barriers, actual as well as legal, which make it difficult for women to enter or succeed in the various professions, to go into and get on in business, to learn trades and practice them,
to join trades unions. Chief among these remaining
barriers is inequality in pay.

Second, we must institute a revolution in the early training and education of both boys and girls. It must be womanly as well as manly to earn your own living, to stand on your own feet. And it must be manly as well as womanly to know how to cook and sew and clean and take care of yourself in the ordinary exigencies of life. I need not add that the second part of this revolution will be more passionately resisted than the first.

As far as we can see ahead people will always want homes, and a happy home cannot be had without a certain amount of rather monotonous work and responsibility. How can we change the nature of man so that he will honorably share that work and responsibility and thus make the homemaking enterprise a song instead of a burden? Fundamentally it is a problem of early training-we must bring up feminist sons.

But is there any way of ensuring a woman's economic independence while child-raising is her chosen occupation? It seems that the only way we can keep mothers free, at least in a capitalist society, is by the establishment of a principle that the occupation of raising children is peculiarly and directly a service to society, and that the mother upon whom the necessity and privilege of performing this service naturally falls is entitled to an adequate economic reward from the government. It is idle to talk of real economic independence for women unless this principle is accepted. But with a generous endowment of motherhood provided by legislation, with the feminist ideal of education accepted in home and school, and with all special barriers removed in every field of human activity, there is no reason why woman should not become almost a human thing.

## 21

The author of this passage primarily aims to
A) celebrate progress towards gender equality.
B) outline further goals that must be achieved for gender equality.
C) berate those who stifle the progress of gender equality.
D) call those who ignore the need for gender equality to act.

22
Which of the following situations is most analogous to the historical moment presented in the passage?
A) A band of adventurers already far from home have the endurance to travel an even greater distance.
B) An underdog politician surprises critics by having the foresight to prepare well for the future.
C) A group of workers wins the right to unionize, enabling them to begin further negotiations.
D) A battered troop of soldiers is unprepared for an enemy ambush.

23
Which choice provides the best evidence for the answer to the previous question?
A) Lines 3-6 ("Now they ... freedom")
B) Lines 22-23 ("What she $\ldots$ soul")
C) Lines 34-37 ("First by ... professions")
D) Lines 59-61 ("But is ... occupation")

## 24

As used in line 15, "recognized" most nearly means
A) remembered.
B) placed.
C) realized.
D) acknowledged.

## 25

The author most strongly suggests that
A) women are predisposed to certain careers more than others.
B) women should not be content taking care of children at home.
C) women are capable of pursuing diverse occupations.
D) men are less naturally suited to take care of children than women.

## 26

Which choice provides the best evidence for the answer to the previous question?
A) Lines 1-3 ("In fighting ... subject")
B) Lines 7-11 ("It seems ... ways")
C) Lines 28-30 ("What we ... grow")
D) Lines 44-47 ("And it ... life")

## 27

In lines 35-36, what is the most likely reason Eastman makes the distinction, "actual as well as legal?"
A) To demonstrate how the legal system affects women on a daily basis
B) To list the specific types of discouragement women face when trying to gain success in the workplace
C) To indicate that there are factors that inhibit women's success in the workplace other than laws
D) To imply that having children makes it difficult to gain traction in a career

## 28

In the context of the passage, the author's use of the word "song" (line 56) is primarily meant to
A) propose that singing songs while performing daily chores will make the activity more appealing.
B) suggest that equitable homemaking could be as light and harmonious as a song.
C) compare homemaking to a performance which requires training and rehearsal.
D) ask a rhetorical question which illustrates the magnitude of the challenges ahead.

29
The author's attitude in lines 75-76 is best described as
A) righteous.
B) sardonic.
C) delighted.
D) skeptical.

# Writing and Language Test <br> 35 MINUTES, 44 QUESTIONS 

Turn to Section 2 of your answer sheet to answer the questions in this section.

## DIRECTIONS

Every passage comes with a set of questions. Some questions will ask you to consider how the writer might revise the passage to improve the expression of ideas. Other questions will ask you to consider correcting potential errors in sentence structure, usage, or punctuation. There may be one or more graphics that you will need to consult as you revise and edit the passage.

Some questions will refer to a portion of the passage that has been underlined. Other questions will refer to a particular spot in a passage or ask that you consider the passage in full.

After you read the passage, select the answers to questions that most effectively improve the passage's writing quality or that adjust the passage to follow the conventions of standard written English. Many questions give you the option to select "NO CHANGE." Select that option in cases where you think the relevant part of the passage should remain as it currently is.

Questions 1-11 are based on the following passage.

## The Search for Other Worlds

One of the most exciting frontiers in astronomy is the study of planets outside our solar system. Though these exoplanets orbit distant stars that humans may never 1 visit. They are of great interest to any scientists and members of the general public who want to know if other worlds may harbor life. Despite the scientific value in finding and studying exoplanets, few governments provide enough funding for this type of astronomical research. More attention should be paid to this important line of scientific inquiry.

1
A) NO CHANGE
B) visit: they
C) visit. However, they
D) visit, they

## 2

## 2

2 [1] Because they are usually too distant and dim to be spotted and photographed directly, exoplanets must often be detected by indirect techniques. [2] However, both of these techniques rely on high-quality observations of stars. [3] One such technique is the transit method, which finds planets by spotting the changes in brightness they cause when they pass in front of the stars they orbit. [4] Another is the radial velocity method, which notes small movements of stars caused by the gravity of an orbiting planet. [5] When scientists applied these methods to observations from Earth-bound telescopes, which are limited by interference from the atmosphere, they 3 find only "hot Jupiters." [6] These enormous planets have orbits much smaller 4 than Earth, and are unlikely to be hospitable to life. 5

## 2

Which choice most effectively expresses the main topic of this paragraph?
A) Many exoplanets have unusual characteristics that make them very unlike Earth.
B) Scientists use a variety of methods to find exoplanets.
C) Only a few astronomers have the expertise needed to identify exoplanets.
D) Other astronomical objects can often be confused with exoplanets.

## 3

A) NO CHANGE
B) are finding
C) would find
D) found

## 4

A) NO CHANGE
B) than Earth's
C) than Earth is
D) than the Earth

## 5

To make this paragraph most logical, sentence 2 should be placed
A) where it is now.
B) after sentence 3 .
C) after sentence 4 .
D) after sentence 6 .

## 2

## 2

In the hopes of finding more Earth-like exoplanets, the National Aeronautics and Space Administration (NASA) launched an orbital telescope called Kepler 6 that was launched in order to make better observations of stars in our galaxy. This mission was extraordinarily successful; Kepler enabled hundreds of exoplanets to be detected by the transit method in 2014. Based on 7 it's findings, scientists estimated that as many as 40 billion potentially habitable Earthsized planets could exist in our galaxy.

However, the Kepler mission has been consistently 8 ravaged by problems due to NASA's limited funding. The project was delayed several times before the telescope's 9 launch, as a result of funding cuts. In addition, mechanical failures have damaged Kepler in orbit, crippling its ability to rotate and endangering its mission to collect data.

## 6

A) NO CHANGE
B) that was launched for
C) to make
D) make

## 7

A) NO CHANGE
B) its
C) their
D) they're

8
A) NO CHANGE
B) defiled
C) plagued
D) disfigured

9
A) NO CHANGE
B) launch: as a
C) launch; as a
D) launch as a

This is hardly surprising given the budget cuts NASA has suffered. 10 In the past, when the US government made space exploration a higher priority, NASA used its ample funding to produce valuable new technologies and important scientific findings.

Moreover, NASA's highly visible accomplishments, including landing astronauts on the moon in 1969, inspired a generation of 11 scientists so more support for NASA in its mission to find exoplanets would deliver untold benefits to science and to the American people.

## 10

The writer wants to include a sentence that provides evidence that NASA's budget problems are a result of changing government priorities. Which choice would best accomplish this goal?
A) NASA's budget as a percentage of the United States federal budget has decreased eightfold since the 1960s.
B) Like any government agency, sometimes NASA has to balance its objectives against its available budget.
C) NASA needed $\$ 17$ million to be able to really explore the existence of exoplanets.
D) The U.S. federal government needs to provide NASA with enough money to launch successful missions.

## 11

A) NO CHANGE
B) scientists. So more
C) scientists, so more
D) scientists. More

## 2

Questions 12-22 are based on the following passage.

## Haruki Murakami and the Literature of Japan

Haruki Murakami is one of Japan's best-known authors. In a career spanning almost 40 years, he has produced an enormous body of work including 12 novels, and short stories, and nonfiction. Many of his works have been translated into languages other than Japanese and are popular internationally.

Murakami began writing at the age of 29. Though he had never before been 13 aspired to write, he was suddenly struck with the idea that he could and should write a novel. His first few novels, published in the early 1980s, were moderately successful, but Murakami did not become widely known until several years later, with the release of Norwegian Wood in 1987. This novel explored the lives and relationships of a group of Japanese college students. It was immensely popular with young readers both in Japan and abroad and is considered Murakami's breakout work.

## 12

A) NO CHANGE
B) novels and short stories, and nonfiction
C) novels, and short stories, nonfiction
D) novels, short stories, and nonfiction

## 13

A) NO CHANGE
B) inspired
C) conspired
D) transpired

## Math Test - No Calculator

## 25 MINUTES, 17 QUESTIONS

Turn to Section 3 of your answer sheet to answer the questions in this section.

## DIRECTIONS

Questions 1-13 ask you to solve a problem, select the best answer among four choices, and fill in the corresponding circle on your answer sheet. Questions 14-17 ask you to solve a problem and enter your answer in a grid provided on your answer sheet. There are detailed instructions on entering answers into the grid before question 14. You may use your test booklet for scratch work.

## NOTES

1. You may not use a calculator.
2. Variables and expressions represent real numbers unless stated otherwise.
3. Figures are drawn to scale unless stated otherwise.
4. Figures lie in a plane unless stated otherwise.
5. The domain of a function $f$ is defined as the set of all real numbers $x$ for which $f(x)$ is also a real number, unless stated otherwise.

## REFERENCE


$A=\frac{1}{2} b h$

$a^{2}+b^{2}=c^{2}$


Special Triangles

$V=\frac{1}{3} l w h$

$V=\frac{1}{3} \pi r^{2} h$

$A=l w$

$V=l w h$

$V=\pi r^{2} h$

$A=\pi r^{2}$
$C=2 \pi r$


There are $360^{\circ}$ in a circle.
The sum of the angles in a triangle is $180^{\circ}$.
The number of radians of arc in a circle is $2 \pi$.

1

## 4

If $x y+2 x=5 y+5$, what is the value of $x$ when $y=3$ ?
A) 1
B) 4
C) 6
D) 8

2

If $2 x+6=x+12$, what is the value of $x ?$
A) 1
B) 3
C) 6
D) 8

## 3

For which of the following functions is $f(-1)>f(1)$ ?
A) $f(x)=-4+x$
B) $f(x)=2 x$
C) $f(x)=7-x$
D) $f(x)=-(3-x)$

$f(x)=x+b$ is graphed above. Which of the following choices correctly represents the expression $f(-x)+2$ ?
A)

B)

C)

D)


## 5

If the sum of 3 consecutive even integers is greater than 20 , what is the smallest possible value for the first integer?
A) 4
B) 6
C) 8
D) 10

6


The figure above shows the graph of $y=(x-1)^{2}$. What is a possible value of $x$ if $(x-1)^{2}=4$ ?
A) 2
B) 3
C) 4
D) 5

## 7

If $f(x)-f(x+1)=2 x-5$ and $f(6)=12$, what is the value of $f(5)$ ?
A) 5
B) 7
C) 17
D) 19

8

| $t$ | $d(t)$ |
| :---: | :---: |
| 0 | 1200 |
| 1 | 1260 |
| 2 | 1323 |
| 3 | 1389 |
| 4 | 1459 |

Joe has placed $\$ 1200$ into an investment account that pays $5 \%$ interest every year. The table above shows the amount of money in the account (rounded to the nearest dollar), $d(t)$, as a function of the number of years since Joe deposited the money, $t$. Which of the following equations best represents the relationship between $t$ and $d(t)$ ?
A) $d(t)=1200+1200(1.05 t)$
B) $d(t)=1200\left(\frac{t}{1.05}\right)$
C) $d(t)=1200(1.05)^{t}$
D) $d(t)=1200+(0.05)\left(1200^{t}\right)$

9
An enzyme takes 2 milliseconds to decompose a molecule of chemical A and 1 millisecond to decompose a molecule of chemical B. Molecules of chemicals A and B are mixed together, resulting in 12 molecules total. If the enzyme takes 16 milliseconds to decompose the mix of the two chemicals, which system of linear equations best represents this information?
A) $\begin{aligned} & 2 x+y=16 \\ & x+y=12\end{aligned}$
B) $2 x+y=12$
$x+y=16$
C) $2 x+y=16$
$x-y=12$
D) $2 x+y=12$
$x-y=16$

## 10

Which of the following is a possible solution to the equation $x=x^{-2}$ ?
A) -1
B) 0
C) 1
D) 2

## 11



Of all the points $(x, y)$ on the graph above, for what value of $x$ is the value of $y$ smallest?
A) 0
B) 1
C) 2
D) 3

