



Habib University
shaping futures



A QUICK GUIDE TO THE
HABIB UNIVERSITY
ENTRANCE EXAMINATION

Habib University Entrance Examination

Introduction:

The Habib University Entrance Examination is an important tool used by the University to assess the academic skills of applicants for undergraduate programs. The purpose of the entrance examination is to assess the readiness of high school students to take on college/university level work.

This document provides details of the test, a list of resources you can use to prepare for these examinations, and some sample questions.

Entrance Examination for all the Applicants of Habib University

Habib University's Entrance Examination is a computer-based standardized test from College Board, the world leader in student assessment. The Entrance Examination assesses your English reading and sentence-formation skills, your ability to express your thoughts in writing, and competence in Mathematics (based on the program that you have applied for). It is mandatory for all applicants, except those who qualify for the test exemption based on their SAT I and SAT II scores or Grades as per the details given in the section of 'Exemptions from HU Entrance Examinations'.

The test has the following characteristics:

- It is administered online
- It is a multiple-choice test (except for the essay section)
- No negative marking
- It adapts to your level of ability*

*The test uses computer-adaptive testing technology to select test questions that are best suited for each test taker; i.e., the test will give you questions based on how you have performed on the questions up till that point.

Habib University administers the test at its campus in Karachi. In other cities, it is administrated at the identified spaces under the supervision of HU team.

English Component of the Entrance Examination (Same for all the degree programs)

Accuplacer Reading

The Reading Comprehension section is a multiple-choice assessment. There are approximately 20 questions in the Accuplacer Reading portion of the exam. These questions assess your ability to derive meaning from a range of prose texts and to determine the meaning of words and phrases in short and extended contexts. Passages on the test cover a range of content areas (including literature and literary nonfiction, careers/history/social studies, humanities, and

science), writing modes (informative/ explanatory, argument, and narrative), and complexities (relatively easy to very challenging).

Four broad knowledge and skill categories are assessed:

- Information and Ideas (reading closely, determining central ideas and themes, summarizing, understanding relationships)
- Rhetoric (analyzing word choice rhetorically, analyzing text structure, analyzing point of view, analyzing purpose, analyzing arguments)
- Synthesis (analyzing multiple texts)
- Vocabulary

Accuplacer Writing

The Accuplacer Writing section is a multiple-choice assessment. There are approximately 20 questions in this section. These questions assess your ability to revise and edit a range of prose texts for effective expression of ideas and for conformity to the conventions of Standard Written English sentence structure, usage, and punctuation. Two broad knowledge and skill categories are assessed:

- Expression of Ideas (development, organization, effective language use)
- Standard English Conventions (sentence structure, usage, and punctuation)

Essay Writing

The Essay Writing section will ask you to write a five-paragraph persuasive essay (approximately 350–500 words) on the given topic. You will not be allowed to use a dictionary or other outside resources, but you may use plain scratch paper to plan your essay and write your rough draft(s).

You will be provided with an essay prompt. An essay prompt is a short passage adapted from some authentic text. Following the passage is an essay assignment that requires the student to focus on the issue addressed in the passage. Prompts are free of technical or specific literary references and do not require specialized knowledge. The prompts are designed to stimulate critical thinking and are relevant to any number of fields and interests. The essay gives you an opportunity to show how effectively you can develop and express your ideas in writing. You should support your position with appropriate reasoning and examples.

The position you take will not influence your score. Your essay will be given a holistic score that represents how clearly and effectively you expressed your position. The following six characteristics of writing will be considered:

1. **Purpose and Focus:**
The extent to which you present information in a unified and coherent manner, clearly addressing the issue.
2. **Critical Thinking:**
The extent to which you communicate a point of view and demonstrate reasoned relationships between ideas.

3. **Organization and Structure:**
The extent to which you order and connect ideas.
4. **Development and Support:**
The extent to which you develop and support ideas.
5. **Sentence Variety and Style:**
The extent to which you craft sentences and paragraphs, demonstrating control of vocabulary, voice and structure.
6. **Mechanical Conventions:**
The extent to which you express ideas using standard written English

Mathematics Component of Entrance Examination for the Applicants for the School of Arts, Humanities and Social Sciences (AHSS)

All applicants applying for AHSS have to take the Arithmetic exam. It is a multiple-choice assessment. There are approximately 20 questions in the Arithmetic portion of the exam. This section will assess your ability in the following areas:

- Ability to add, subtract, multiply, and divide whole numbers and fractions; recognize equivalent fractions and mixed numbers; take squares and square roots.
- Ability to add, subtract, multiply, and divide decimal numbers; recognize equivalent fractions and decimal numbers; take squares and square roots of decimal numbers.
- Solve word problems involving percentages.
- Ability to estimate sums, differences, products, and quotients of fractions and mixed numbers; order fractions, decimals, and percentages and round numbers.
- Ability to solve word problems involving rates, ratios, proportions, averages, graphs and tables

Mathematics Component of Entrance Examination for the Applicants of the Dhanani School of Science and Engineering (DSSE)

There are two types of Mathematics test for DSSE. Applicants are required to take one test depending upon their Mathematics background

1. Mathematics Test for the Applicants WHO HAVE STUDIED Mathematics at A level/HSSC/High School

Advanced Level Mathematics is mandatory for all the applicants of the School of Science and Engineering (SSE) who have studied Mathematics at their High School i.e. during A level, HSSC, High School Diploma or any other equivalent qualification. Students qualifying for test exemption based on SAT II Math (II) Scores will be exempted from this test.

Components of Advance Level Math

It is a multiple-choice assessment. There are approximately 20 questions in this portion of the exam. This section will assess your ability for selected mathematics content. Questions will focus on a range of topics, including a variety of equations and functions, including linear, quadratic, rational, radical, polynomial, and exponential. Questions will also delve into some geometry and trigonometry concepts. In addition, questions may assess a student's math ability via computational or fluency skills, conceptual understanding, or the capacity to apply mathematics presented in a context. The following knowledge and skill categories are assessed:

- Linear equations
- Linear applications
- Factoring
- Quadratics
- Functions
- Radical and rational equations
- Polynomial equations
- Exponential and logarithmic equations
- Geometry concepts
- Trigonometry

2. Mathematics Test for the Applicants of School of Science and Engineering WHO HAVE NOT STUDIED Mathematics at A level/HSSC/High School

Advanced Level Math component of the Entrance Examination is mandatory for all those applicants of the School of Science and Engineering (DSSE), however, applicants who have not studied Mathematics at A level/HSSC/High School but want to pursue Computer Science degree (this category may include applicants from pre-medical or general science background) will have to appear for the basic Arithmetic component first (Refer to page 4 for Arithmetic component description). These students are required to take preparatory Mathematics classes in June and then have to appear for the Advanced Level Math component in July.

Time required to complete the Entrance Examination

The maximum time allotted to complete all sections of the entrance examination is 3.5 hours.

Exemption from the Habib University Entrance Examinations

There are two possible ways to get an exemption from the HU Entrance Examination. You may select one as per your planning and performance.

SAT based Exemption

You may be exempted from the Habib University English Assessment if you have taken the SAT I and your score is 1270 or above (You need to have a minimum score of 600 or above in each component). If you have not appeared for the English writing section in SAT I, you will have to take the Essay section of our Entrance Examination. If you are applying for the DSSE, you can also petition for exemption from the Habib University Advanced Level Math section by submitting the SAT II Mat II score of 600 or above. You should submit your SAT scores using SAT score code 7344 through College Board. Please remember to send your SAT score to admissions@habib.edu.pk as well.

High Grade Exemption

This option is applicable only for the students of Cambridge Examination Board (CEB) and Aga Khan University Examination Board (AKU-EB). If your grades are high as per the criteria mentioned below then you can apply for this exemption.

- AKU-EB students can get exemption from the Entrance Examination if their average SSC & HSSC score is 85% or above.
- CEB students can get a test exemption from the Entrance Examination if their average score in eleven subjects of O & A levels is 85% or above and no grade is lower than a B.

*All Science and Engineering applicants can avail Grade based Exemption for the English Component of their Entrance Examination only. They need to take a short Habib University's Advanced Level Mathematics Test or submit SAT II Math II scores.

Guidelines for Test Day

Following are a few guidelines for the test day:

- Your test will be conducted at Habib University. On test day, please reach the University at least half an hour before test time so that you can register yourself and get acquainted with the place.
- **You are not allowed to bring anything on the test day except your Habib University. Admit Card, your CNIC/B-Form/ Passport or any other picture identity with you.**
- As soon as you reach the University, register yourself and get your test voucher(s) and seat number from the registration team. The registration team will further guide you to your test venue.
- Applicants appearing for the Advanced Level Math section are required to bring their own scientific calculator. Calculators will **not** be allowed for students appearing for the Arithmetic test.
- If you bring a cell phone, you will be asked to turn it off and submit it to the registration team before entering the examination room. The university will bear no responsibility for any loss of any cellphone or any other item.
- Stationery for the test, including pencils, erasers, sharpeners and scratch papers, will be provided to you by Habib University. **You do not need to bring any stationary**

Resources to Prepare for the Entrance Examination

As with any exam, studying for Habib University's entrance tests is an important part of the preparation process. Students are encouraged to examine the areas mentioned as being part of each of the respective tests as well as they can.

Prepare like you would for any standardized test. If you need assistance, enlist the help of test preparation centers present everywhere in the city. You will also find a plethora of free and fee-based test prep services on the internet. Please note that Habib University does not endorse or sponsor any test preparation center or online prep program, free or otherwise. The resource listed below are merely provided as a service to our students. We assume no responsibility for the content.

Websites

<https://www.khanacademy.org/>

<http://www.testprepreview.com/>

<http://www.testprepreview.com/>

<http://www.math.com/>

<http://www.chompchomp.com/>

<http://www.grammar-monster.com/>

*www.google.com - In the search box, type —ACCUPLACER practice. You will find several websites that provide practice material

If you wish to take up a book to study for the test, we advise you to review the subject material for the specific areas that will be assessed. There are several reliable test prep book publishers out there, including the College Board. Visit your nearest bookstore for more information.

There are multiple mobile apps that can help you prepare for standardized tests. In fact, the College Board publishes one for preparation for its ACCUPLACER test that students might find particularly useful. It is available for both Android and iOS devices. Search for the College Board in the app stores applicable to your device.

Now that you have an idea of what the test is and how it works, take some time to review some of the sample questions provided in this booklet.

SAMPLE QUESTIONS WITH ANSWER KEY

Reading Sample Questions 1-10

Read the passage(s) below and answer the question based on what is stated or implied in the passage(s) and in any introductory material that may be provided.

In this passage, an amateur theater group called the Laurel Players is putting on its first production.

(1) The Players, coming out of their various kitchen doors and hesitating for a minute to button their coats or pull on their gloves, would see a landscape in which only a few very old, weathered houses seemed to belong; it made their own homes look as weightless and impermanent, as foolishly misplaced as a great many bright new toys that had been left outdoors overnight and rained on. (2) Their automobiles didn't look right either—unnecessarily wide and gleaming in the colors of candy and ice cream, seeming to wince at each splatter of mud, they crawled apologetically down the broken roads that led from all directions to the deep, level slab of Route Twelve. (3) Once there the cars seemed able to relax in an environment all their own, a long bright valley of colored plastic and plate glass and stainless steel—KING KONE, MOBILGAS, SHOPORAMA, EAT—but eventually they had to turn off, one by one, and make their way up the winding country road that led to the central high school; they had to pull up and stop in the quiet parking lot outside the high-school auditorium.

(4) “Hi!” the Players would shyly call to one another.

(5) “Hi! . . .” (6) “Hi! . . .” (7) And they'd go reluctantly inside.

(8) Clumping their heavy galoshes around the stage, blotting at their noses with Kleenex and frowning at the unsteady print of their scripts, they would disarm each other at last with peals of forgiving laughter, and they would agree, over and over, that there was plenty of time to smooth the thing out. (9) But there wasn't plenty of time, and they all knew it, and a doubling and redoubling of their rehearsal schedule seemed only to make matters worse. (10) Long after the time had come for what the director called “really getting this thing off the ground; really making it happen,” it remained a static, shapeless, inhumanly heavy weight; time and time again they read the promise of failure in each other's eyes, in the apologetic nods and smiles of their parting and the spastic haste with which they broke for their cars and drove home to whatever older, less explicit promises of failure might lie in wait for them there.

(11) And now tonight, with twenty-four hours to go, they had somehow managed to bring it off.

(12) Giddy in the unfamiliar feel of make-up and costumes on this first warm evening of the year, they had forgotten to be afraid: they had let the movement of the play come and carry them and break like a wave; and maybe it sounded corny (and what if it did?) but they had all put their hearts into their work.

(13) Could anyone ever ask for more than that?

From Richard Yates, *Revolutionary Road*. ©1989 by Richard Yates. Originally published in 1961.

- The contrasts the narrator draws in sentences 1 and 2 between the Players' homes and the houses in the “landscape” and between the Players' automobiles and the “roads” are most likely meant to suggest that the Players' homes and automobiles are
 - old and neglected
 - modern and alien
 - small but expensive
 - grand but unappreciated
- Based on the passage, which of the following most accurately characterizes the claim that “there was plenty of time to smooth the thing out” (sentence 8)?
 - A comforting falsehood that the Players know to be untrue
 - An outright lie that the director persuades the Players to accept
 - An optimistic conclusion reached by outside observers watching an early rehearsal
 - A realistic appraisal offered by the director after careful analysis of the play's shortcomings
- The descriptive language in sentence 10 is mainly intended to reinforce the passage's depiction of the Players'
 - growing resentment of the director's leadership
 - increasing reluctance to work as hard as they have been
 - lingering doubts about their fellow cast members
 - persistent mood of despair regarding the play
- The narrator most strongly suggests that which of the following resulted in the transformation described in the last paragraph?
 - The change in time of day during which rehearsals were being held
 - The greater frequency with which rehearsals were being scheduled
 - The shift in the director's style from strict to more forgiving
 - The break in routine occurring the day before the first performance

Passage 1

Green Bank, West Virginia, is a tech-savvy teenager’s nightmare. In this tiny town in Pocahontas County—population 143—wireless signals are illegal. No cell phones. No WiFi. No radio. No Bluetooth. No electronic transmitters at all. You’re not even allowed to cozy up to an electric blanket.

The remote town is smack in the center of the National Radio Quiet Zone, a 13,000 square mile stretch of land designated by the Federal Communications Commission to protect two government radio telescopes from human-made interference. The rules are most strict in Green Bank. So strict that a police officer roves the streets listening for forbidden wireless signals.

It’s necessary, though. The town is home to the Green Bank Telescope, the largest steerable radio telescope in the world—and arguably our most powerful link to the cosmos. Scientists there listen to radio energy that has journeyed light years, unlocking secrets about how the stars and galaxies formed. A rogue radio signal could prevent potential discoveries, discoveries that could answer big questions about how the universe ticks.

Adapted from Lucas Reilly, “The West Virginia Town Where Wireless Signals Are Illegal.” ©2013 by Mental Floss, Inc.

Passage 2

Lawn mowers seem to have little in common with astronomy, but they are keeping astronomers at the National Radio Astronomical Observatory up at night. A new type of robotic lawn mower has been proposed that uses beacons to train the lawn mower to stay within property lines. The beacons, placed around the yard, transmit at the same wavelength as interstellar molecules astronomers study to understand how stars form. Humans wouldn’t notice the tiny amount of energy given off by the beacons, but the Green Bank Telescope—the size of a football stadium—is so sensitive it can detect the energy given off by a snowflake as it melts. By simply mowing the lawn, a homeowner runs the risk of interfering with one of our greatest tools for studying the universe.

The manufacturer of one “lawnbot” requested a waiver to operate within the National Radio Quiet Zone. Astronomers countered with the suggestion that the beacons be reprogrammed to transmit at another wavelength not emitted by interstellar molecules. Alternately, astronomers want global positioning system (GPS) devices added to each lawnbot to prevent them from operating within the Quiet Zone.

5. The main purpose of the last paragraph of Passage 1 is to offer
 - A. criticism
 - B. justification
 - C. exemplification
 - D. comparison
6. Which conclusion can reasonably be drawn about the status of the “lawnbot” issue at the time of the writing of Passage 2?
 - A. The manufacturer has received a waiver to operate within the National Radio Quiet Zone.
 - B. The manufacturer has changed the wavelength at which the lawnbot’s beacons transmit.
 - C. Astronomers have succeeded in getting GPS devices added to each lawnbot.
 - D. The manufacturer and astronomers have yet to resolve their conflict.
7. Which choice best describes the relationship between the two passages?
 - A. Passage 1 mainly discusses the National Radio Quiet Zone in general, while Passage 2 mainly discusses a particular threat to the zone’s integrity.
 - B. Passage 1 focuses on Green Bank, West Virginia, while Passage 2 focuses on the National Radio Quiet Zone surrounding the town.
 - C. Passage 1 evaluates drawbacks of the National Radio Quiet Zone, while Passage 2 evaluates benefits of the zone.
 - D. Passage 1 offers praise for astronomers, while Passage 2 offers criticism of astronomers.
8. Given the evidence in the passages, with which statement would the authors of both passages most likely agree?
 - A. Radio telescopes could be used to measure snowfall amounts.
 - B. The Green Bank Telescope can detect extremely small amounts of energy.
 - C. Increased sales of robotic lawn mowers may require the creation of more radio quiet zones.
 - D. The lack of modern technology has made people move away from Pocahontas County.

As soon as I saw the Manhattan map, I wanted to draw it. I should be able to draw the place where I lived. So I asked Mom for tracing paper and she got it for me and I brought it into my fort and I pointed the light right down on the first map in the Hagstrom Atlas—downtown, where Wall Street was and the stock market worked. The streets were crazy down there; they didn't have any kind of streets and avenues; they just had names and they looked like a game of Pick-Up Sticks. But before I could even worry about the streets, I had to get the land right. Manhattan was actually built on land. Sometimes when they were digging up the streets you saw it down there—real dirt! And the land had a certain curve to it at the bottom of the island, like a dinosaur head, bumpy on the right and straight on the left, a swooping majestic bottom.

From Ned Vizzini, *It's Kind of a Funny Story*.
©2006 by Ned Vizzini.

9. In the passage, the use of “crazy,” “dinosaur head,” “bumpy,” “straight,” and “swooping” serve mainly to emphasize the
- A. narrator’s serious approach to mapmaking
 - B. narrator’s frustration with drawing
 - C. irregularity of downtown Manhattan
 - D. ways in which a landscape can change over time

The life of Edith Wharton is not an inspiring rags-to-riches saga, nor is it a cautionary tale of riches to rags—riches to riches, rather. Born Edith Newbold Jones, in January of 1862, into one of the leading families of New York, the author maintained multiple establishments and travelled in the highest style, with a host of servants, augmenting her several inheritances by writing best-selling fiction. In the Depression year of 1936, when two thousand dollars was a good annual income, her writing earned her a hundred and thirty thousand, much of it from plays adapted from her works. Yet her well-padded, auspiciously sponsored life was not an easy one. The aristocratic social set into which she was born expected its women to be ornamental, well-sheltered, intellectually idle agents of their interwoven clans, whereas Edith was an awkward, red-haired bookworm and dreamer, teased by her two older brothers about her big hands and feet and out of sympathy with her intensely conventional mother, née Lucretia Stevens Rhineland— a mother-daughter disharmony that rankled in Edith’s fiction to the end.

Adapted from John Updike, “The Changeling,” a review of the biography *Edith Wharton* by Hermione Lee.
©2007 by Condé Nast.

10. Which choice best describes the overall structure of the passage?
- A. Biographical incidents are recounted chronologically.
 - B. An author’s life is connected to various themes in her work.
 - C. The works of two authors are compared and contrasted.
 - D. A list of advantages is followed by a list of disadvantages.

Bones found in South America reveal a bizarre new dinosaur. Based on an ancestry that links it to *Tyrannosaurus rex*, this reptile should have been a meat eater. Instead, it preferred plants. Researchers described the new species in *Nature*.

Its genus name—*Chilesaurus*—reflects that it was found in what’s now Chile. The team that discovered the fossils gave it a species name of *diegosuarezi* to honor Diego Suarez. While just 7 years old, Diego found the first dinosaur bones in the same general area of Chile. It’s a place known as the Toqui Formation.

C. diegosuarezi roamed South America 150 million years ago. It measured about 3 meters (roughly 10 feet) from head to tail. Its sturdy back legs, thin body and short, stout arms made it look a bit like *T. rex*. But it also had a long neck, small head and a mouth full of leaf-shaped teeth. Those gave it a *Brontosaurus*-like appearance. And like the *Brontosaurus*, it would have eaten plants, making it an herbivore.

Adapted from Ashley Yeager, “Frankenstein’ Dino Showed a Mashup of Traits.” ©2015 by Society for Science & the Public.

Writing Sample Question 1-10

Read the following early draft of an essay and then choose the best answer to the question or the best completion of the statement.

(1) The prevalence of nectarines in US supermarkets today is directly related to the company started by two unrelated men who shared a last name, an inventive bent, and a drive to succeed. (2) Moving from Korea to the United States in 1914, Ho “Charles” Kim founded the Kim Brothers trucking company in California in 1921 with his friend Harry Kim. (3) Much of the freight their trucks carried in the early years were fruit grown in the San Joaquin valley. (4) Kim Brothers soon expanded to include nurseries, orchards, and fruit-packing sheds. (5) Eventually the operation became a major employer, providing year-round jobs for about two hundred people and up to four hundred part-time jobs during harvest season coming after growing season.

(6) Kim Brothers succeeded even in the face of the Great Depression of the 1920s and 30s because the company produced and sold the first commercially viable nectarines. (7) The nectarine is a hybrid fruit. (8) It combines peach and plum, with the taste and texture of the former and the smooth skin of the latter. (9) With the help of a staff horticulturalist, Kim Brothers developed and patented the “fuzzless peach” known as the Sun Grand nectarine. (10) Though not the first nectarine—the fruit had existed in China for two millennia; the Sun Grand was unique in being hardy enough to ship great distances.

(11) By the 1960s, Kim Brothers included more than five hundred acres of farmland and grossed more than \$1 million annually. (12) Charles and Harry Kim were eventually recognized as the first millionaires of Korean descent. (13) They were also known for giving back to their community. (14) Charles was also instrumental in helping to create Los Angeles’s Koreatown (home today to more Koreans than any place other than North and South Korea).

1. Which is the best version of the underlined portion of sentence 3 (reproduced below)?

Much of the freight their trucks carried in the early years were fruit grown in the San Joaquin valley.

- A. (as it is now)
- B. have been
- C. are
- D. was

2. Which is the best decision regarding the underlined portion of sentence 5 (reproduced below)?

Eventually the operation became a major employer, providing year-round jobs for about two hundred people and up to four hundred part-time jobs during harvest season coming after growing season.

- A. Leave it as it is now
- B. Revise it to “when the crops were ready to pick.”
- C. Revise it to “after the produce had ripened.”
- D. DELETE it and end the sentence with a period

3. Which is the most logical placement for sentence 7 (reproduced below)?

The nectarine is a hybrid fruit.

- A. Where it is now
- B. After sentence 3
- C. After sentence 10
- D. After sentence 11

4. Which is the best version of the underlined portion of sentence 10 (reproduced below)?

Though not the first nectarine—the fruit had existed in China for two millennia; the Sun Grand was unique in being hardy enough to ship great distances.

- A. (as it is now)
- B. millennia. The
- C. millennia—the
- D. millennia) the

5. Sentence 13 is reproduced below.

They were also known for giving back to their community.

The writer is considering adding the following text at the end of the sentence.

by building churches, funding scholarships, and establishing the Korean Association of Southern California

Should the writer make this addition there?

- A. Yes, because it elaborates on the claim made at the beginning of the sentence.
- B. Yes, because it establishes the historical period in which Kim Brothers operated.
- C. No, because it introduces details that are irrelevant to the paragraph’s focus on nectarines.
- D. No, because it fails to explain whether the institutions that the Kims established still exist today.

(1) In the Sahara, near the border of Morocco and Algeria, a new species of spider, *Cebrennus rechenbergi*, has been found. (2) These spiders don't simply scurry across the sand on their many legs, like tumbling gymnasts, they propel themselves forward (or backward) in a series of quick flips. (3) They do this, however, only to elude predators, not to chase prey. (4) A human is thus unlikely ever to see these arachnids flipping toward him or her, only away.

(5) A spider of this species was discovered in the Erg Chebbi. (6) It is a sandy desert in southeastern Morocco. (7) A German robotics researcher who makes yearly treks to the region to study how desert creatures thrive in that climate caught one of the spiders and brought it back to his caravan. (8) The next morning, he was amazed to see the creature try to escape by flipping itself quickly away. (9) The researcher turned the spider over to an arachnid specialist for identification. (10) Ultimately, the spider was determined to be a member of a previously unknown species.

(11) *C. rechenbergi* are "hunter spiders"—skilled predators—found only in the Erg Chebbi. (12) They are nocturnal creatures; during the day, they rest in tubes of silken thread they weave into the sand. (13) Agile and athletic, *C. rechenbergi* rear up on their back legs and lash out when attacked—or it somersaults away, rolling like tumbleweed.

(14) Few spiders propel themselves as *C. rechenbergi* do, and none do so as comprehensively. (15) Golden rolling spiders of Namibia, for instance, can tumble, but they do so only using gravity to roll downhill. (16) *C. rechenbergi*, by contrast, elude predators by rolling uphill, downhill, or on flat ground. (17) Their reproductive organs distinguish them from other *Cebrennus* spiders. (18) While these spiders run only 3.3 feet per second, they can tumble at 6.6 feet per second. (19) Even if this speedy escape method proves effective, however, it can be costly: tumbling away too many times a day will ultimately exhaust the spiders and lead to their demise.

6. Which is the best version of the underlined portion of sentence 2 (reproduced below)?

These spiders don't simply scurry across the sand on their many legs, like tumbling gymnasts, they propel themselves forward (or backward) in a series of quick flips.

- A. (as it is now)
- B. legs like tumbling gymnasts;
- C. legs; like tumbling gymnasts,
- D. legs like tumbling gymnasts,

7. Which choice most effectively combines sentences 5 and 6 (reproduced below) at the underlined portion?

A spider of this species was discovered in the Erg Chebbi. It is a sandy desert in southeastern Morocco.

- A. Chebbi,
- B. Chebbi—this being
- C. Chebbi, and the Erg Chebbi is
- D. Chebbi, the Erg Chebbi being

8. In context, which is the best version of the underlined portion of sentence 10 (reproduced below)?

Ultimately, the spider was determined to be a member of a previously unknown species.

- A. (As it is now)
- B. For example,
- C. Nevertheless,
- D. At the same time,

9. Which is the best version of the underlined portion of sentence 13 (reproduced below)?

*Agile and athletic, *C. rechenbergi* rear up on their back legs and lash out when attacked—or it somersaults away, rolling like tumbleweed.*

- A. (as it is now)
- B. it will somersault
- C. they somersault
- D. they were somersaulting

10. Which sentence blurs the focus of the last paragraph and should therefore be deleted?

- A. Sentence 14
- B. Sentence 15
- C. Sentence 16
- D. Sentence 17

Arithmetic Sample Questions 1-10

Choose the best answer. If necessary, use the paper you were given.

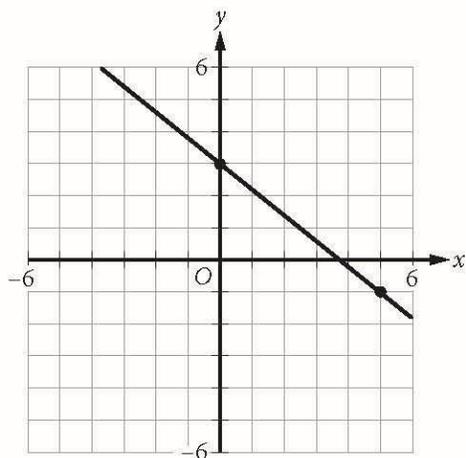
- Which of the following fractions is equal to 0.06?
 - $\frac{1}{6}$
 - $\frac{1}{60}$
 - $\frac{6}{10}$
 - $\frac{6}{100}$
- A club has 36 members. If each member donates 12 items for an auction, how many items will there be in the auction?
 - 48
 - 108
 - 422
 - 432
- What is the value of $\frac{4}{10} + \frac{3}{100}$?
 - $\frac{43}{100}$
 - $\frac{43}{110}$
 - $\frac{7}{10}$
 - $\frac{7}{110}$
- A conference planner has put together 280 binders for attendees and another 31 binders for presenters. How many total binders did the planner put together for attendees and presenters?
 - 211
 - 249
 - 311
 - 590
- A store stocked 150 cans of popcorn for a weekend sale. That weekend, 72 of the cans sold. What percent of the cans of popcorn stocked were sold that weekend?
 - 2%
 - 5%
 - 48%
 - 72%
- $\frac{8}{3}$, 2.28, $\frac{10}{12}$, 0.199
What number in the list above has the greatest value?
 - $\frac{8}{3}$
 - 2.28
 - $\frac{10}{12}$
 - 0.199
- If Manuel deposits 25% of \$130 into a savings account, what is the amount of his deposit?
 - \$5.20
 - \$25.00
 - \$32.50
 - \$97.50
- What is $1,582 + 761$?
 - 1,119
 - 1,243
 - 1,343
 - 2,343
- Xiaoming is making cookies. Each batch of cookies uses 3 eggs. If Xiaoming has 20 eggs, and assuming he has enough of the other ingredients to make the cookies, what is the greatest number of batches that he can make?
 - 3
 - 6
 - 7
 - 17
- What is the value of $3.85 + 0.004 + 0.117$?
 - 3.9611
 - 3.961
 - 3.971
 - 5.06

Advanced Level Mathematics Sample Questions 1-10

Choose the best answer. If necessary, use the paper you were given.

1. Function g is defined by $g(x) = 3(x + 8)$. What is the value of $g(12)$?
- A. -4
 - B. 20
 - C. 44
 - D. 60

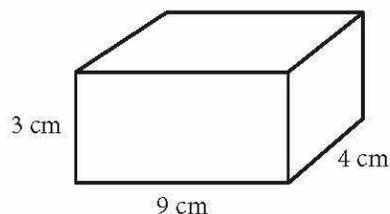
2.



Which of the following is an equation of the line that passes through the point $(0, 0)$ and is perpendicular to the line shown above?

- A. $y = \frac{5}{4}x$
- B. $y = \frac{5}{4}x + 3$
- C. $y = -\frac{4}{5}x$
- D. $y = -\frac{4}{5}x + 3$

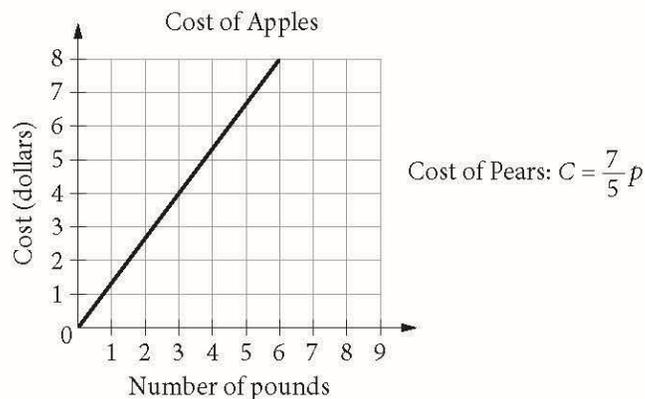
3.



The surface area of a right rectangular prism can be found by finding the sum of the area of each of the faces of the prism. What is the surface area of a right rectangular prism with length 4 centimeters (cm), width 9 cm, and height 3 cm? (Area of a rectangle is equal to length times width.)

- A. 75 cm^2
 - B. 108 cm^2
 - C. 120 cm^2
 - D. 150 cm^2
4. Which of the following expressions is equivalent to $(x + 7)(x^2 - 3x + 2)$?
- A. $x^3 - 3x^2 + 2x + 14$
 - B. $x^3 + 4x^2 - 19x + 14$
 - C. $x^3 - 3x + 14$
 - D. $x^2 - 2x + 9$

5.

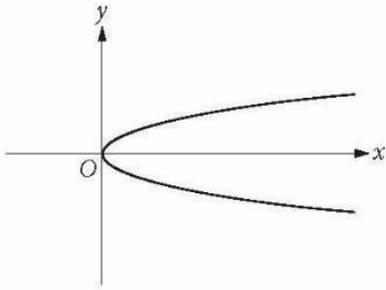


The graph above shows the cost, in dollars, of apples as a function of the number of pounds of apples purchased at a particular grocery store. The equation above defines the cost C , in dollars, for p pounds of pears at the same store. Which of the following statements accurately compares the cost per pound of apples and the cost per pound of pears at this store?

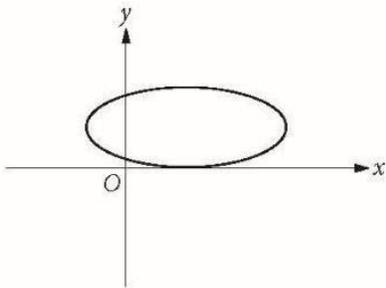
- A. Apples cost approximately \$0.07 less per pound than pears do.
- B. Apples cost approximately \$0.04 less per pound than pears do.
- C. Apples cost approximately \$0.73 less per pound than pears do.
- D. Apples cost approximately \$0.62 more per pound than pears do.

6. Which of the following is the graph of a function where $y = f(x)$?

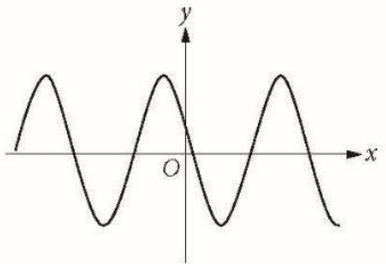
A.



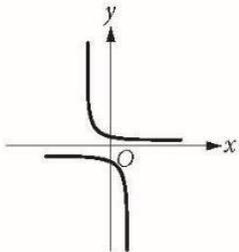
B.



C.



D.



7. Which of the following expressions is equivalent to $3x^2 + 6x - 24$?

- A. $3(x + 2)(x - 4)$
- B. $3(x - 2)(x + 4)$
- C. $(x + 6)(x - 12)$
- D. $(x - 6)(x + 12)$

8. A biologist puts an initial population of 500 bacteria into a growth plate. The population is expected to double every 4 hours. Which of the following equations gives the expected number of bacteria, n , after x days? (24 hours = 1 day)

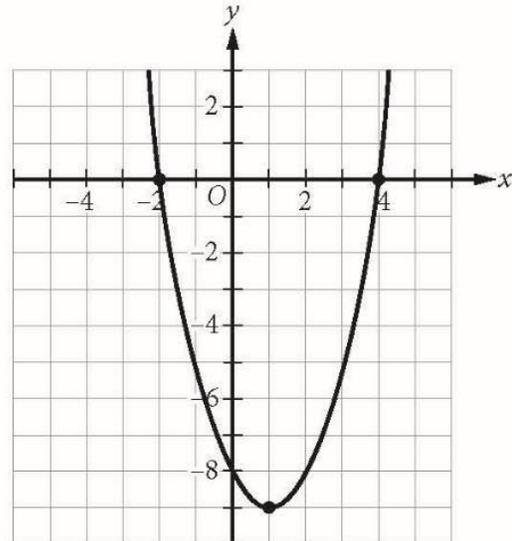
- A. $n = 500(2)^x$
- B. $n = 500(2)^{6x}$
- C. $n = 500(6)^x$
- D. $n = 500(6)^{2x}$

9. $x^2 + 5x - 9 = 5$

Which of the following values of x satisfies the equation above?

- A. 7
- B. 3
- C. -2
- D. -7

10. The graph of $y = f(x)$ is shown in the xy -plane below.



Which of the following equations could define $f(x)$?

- A. $f(x) = x^2 - 2x - 8$
- B. $f(x) = -x^2 + 2x - 8$
- C. $f(x) = (x - 2)(x + 4)$
- D. $f(x) = -(x - 1)^2 - 9$

WritePlacer®

This test measures your ability to write effectively, which is critical to academic success.

Your writing sample will be scored on the basis of how effectively it communicates a whole message to the readers for the stated purpose. Your score will be based on your ability to express, organize and support your opinions and ideas, not the position you take on the essay topic. The following five characteristics of writing will be considered:

- Focus — The clarity with which you maintain your main idea or point of view
- Organization — The clarity with which you structure your response and present a logical sequence of ideas
- Development and Support — The extent to which you elaborate on your ideas and the extent to which you present supporting details
- Sentence Structure — The effectiveness of your sentence structure
- Mechanical Conventions — The extent to which your writing is free of errors in usage and mechanics

WritePlacer Sample Topic

Prepare a multiple-paragraph writing sample of about 300–600 words on the topic below. You should use the time available to plan, write, review and edit what you have written. Read the assignment carefully before you begin to write.

Some schools require each student to participate in an organized school sport chosen by the student. People at these schools argue that athletics is an important part of the educational experience and that there should be a rule requiring participation. Others argue that students should be free to decide whether or not they wish to participate in organized school sports. Write an essay for a classroom instructor in which you take a position on whether participation in organized school athletics should be required. Be sure to defend your position with logical arguments and appropriate examples. Your essay must be 300–600 words in length.

Answer Key:

Reading Answer Key	
1	B
2	A
3	D
4	D
5	B
6	D
7	A
8	B
9	C
10	D

Writing Answer Key	
1	D
2	D
3	A
4	C
5	A
6	C
7	A
8	A
9	C
10	D

Arithmetic Answer Key	
1	D
2	D
3	A
4	C
5	C
6	A
7	C
8	D
9	B
10	C

Advanced Level Mathematics Answer Key	
1	D
2	A
3	A
4	B
5	A
6	C
7	B
8	B
9	D
10	A