

Student's Name: _____ Admissions ID Code: _____
(Please print legibly)

Student's Signature: _____ Date of Birth: _____

HUNTER COLLEGE HIGH SCHOOL EXAMINATION FOR ADMISSION SAMPLE TEST

This sample test contains three sections: 47 multiple-choice **English Language Arts questions**, a **Writing Assignment**, and 35 multiple-choice **Mathematics questions**. The actual exam will contain 50 multiple-choice English Language Arts questions, a Writing Assignment, and 30 multiple-choice Mathematics questions.

Each multiple-choice question is followed by **five possible answers: A, B, C, D, or E**. Choose the best answer for each question. You may make marks in this test booklet; use the space between questions and the blank pages in your booklet for scrap paper. **There is no penalty for guessing.**

On the answer sheet, carefully blacken the circle that contains the letter of the answer you select. Use only a Number 2 pencil for the multiple-choice sections. If you wish to change an answer, carefully erase the wrong answer completely and mark your new answer. **As soon as you finish one section of the test, go on to the next section. Monitor the time the proctor writes on the board.**

Calculators are **not** permitted.

You have a total of **three hours to complete the examination**, including the Writing Assignment.

If you complete the test before the time is up, review your previous work to correct for errors. Make sure that your answer sheet is accurately and cleanly prepared.

You may not remove any page from this booklet or take papers from the test room.

LANGUAGE ARTS

Critical Reading

Each of the following passages is followed by questions based on its content. Choose the letter of the answer that best reflects what is stated or implied in the passage.

Reading Passage A

5 As I walked home from church with my mother that day, the streets seemed as quiet and safe as her eyes. How suddenly tempting it seemed to me, this quest and this safety, compared to the place where I was going. For I had decided to run away from my home and my mother that afternoon, down to the harbor to see the world. What would become of me ‘way down there? What would she do if I never came back? A lump rose in my throat at the thought of her in tears. It was terrible.

“All the same I am going to do it,” I kept thinking doggedly. And yet suddenly, as we reached our front steps, how near I came to telling her. But no, she would only spoil it all. She wanted me always up in the garden, she wanted me never to have any thrills.

10 My mother knew me so well. She had seen that when she read stories of fairies, witches and goblins out of my books to Sue and me, while Sue, though two years younger, would sit there like a little dark imp, her black eyes snapping over the fights, I would creep softly out of the room, ashamed and shaken, and would wait in the hall outside till the happy ending was in plain view. So my mother had gradually toned down all the fights and the killings, the witches and the
15 monsters, and much to my disappointment had wholly shut out the gory pirates who were for me the most frightfully fascinating of all. Sometimes I felt vaguely that for this she had her own reason, too—that my mother hated everything that had to do with the ocean, especially my father’s dock that made him so gloomy and silent. But of this I could never be quite sure. I would often watch her intently, with a sudden sharp anxiety, for I loved my mother with all my soul and I could not
20 bear to see her unhappy.

“Never on any account,” I heard her say to Belle, “are the children to go down the street toward the docks.”

“Yes, ma’am,” said Belle. “I’ll see to it.”

25 At once I wanted to go there. The street in front of our house sloped abruptly down at the next corner two blocks through poorer and smaller houses to a cobblestone space below, over which trucks clattered, plainly on their way to the docks. So I could go down and around by that way. How tempting it all looked down there.

1. The comparison that the narrator makes between the streets and his mother's eyes in lines 1-2 suggests that he finds the streets on that day to be
 - (A) passive
 - (B) comforting
 - (C) exciting
 - (D) indifferent
 - (E) dark
2. As used in line 7, "doggedly" means
 - (A) persistently
 - (B) loudly
 - (C) tiredly
 - (D) fearfully
 - (E) dreamily
3. The narrator decides not to tell his mother his plans to run away because she would
 - (A) be very angry with him
 - (B) ignore them
 - (C) ruin them
 - (D) tell Sue
 - (E) make him do gardening
4. The description of Sue's "black eyes snapping over the fights" in the books that their mother would read to them (line 12) implies that Sue is
 - (A) afraid
 - (B) mean
 - (C) sad
 - (D) unintelligent
 - (E) feisty
5. The narrator compares himself to Sue in order to highlight his
 - (A) sensitive nature
 - (B) youth
 - (C) indifference
 - (D) easygoing disposition
 - (E) sneakiness
6. The narrator's feelings about the "gory pirates" (line 15) can best be described as
 - (A) angry but hopeful
 - (B) scared but intrigued
 - (C) thoughtful but careless
 - (D) wary but disinterested
 - (E) all of the above
7. The passage suggests that the narrator's father's occupation is connected in some way with the
 - (A) church
 - (B) police
 - (C) sea
 - (D) government
 - (E) education system

Reading Passage B

Slanted Figures

The slanted figures pushing west on Madison
were leaning against air. The wind,
my mother said, is terrible, her voice breaking
inside that word. I was 5,
5 Marshall Fields Department Store was lost behind us,
the wind had needle teeth, its big flat hands
were in my jacket, in my pants, did I cry out?

She led me in some stone wall's spinning door,
up onto a sidewalk in the air, a protected crossing
10 between office buildings. Suits and dresses stared at us.
"We saved two blocks," she whispered,
as we took the escalator down, and then
we had to cross Chicago River,
the Madison St. Bridge. "Some years,"
15 my mother said, "they ran ropes down the stairs
of these buildings to keep people from blowing
away." The river, thick as slush but green,
its ice mouth whispering, "Be careful, little boy,"
licked at what we walked on.
20 The wind was in my shoes,

my mitten held my mother's glove
that held me to the earth and knew the way
to the Chicago & Northwestern Station.
Our feet were "stumps," she said, inside,
25 as the train jerked, groaned, and rolled
into darkness, smoke and sparks, the conductor
calling out each pausing in the dark.
I counted us home. Chicago's furthest
and still unshoveled corner. Our snow was clean.
30 Our house, its stucco white and tight, opened.
From behind our kitchen window we saw
other trains, lights sliding past, the city exhaling
clouds of people into icy air,
"It's terrible out there," my mother said,
35 "I just won't thaw."

8. The people in stanza 1 are “slanted figures” because they are leaning into
 (A) a snowstorm
 (B) other people
 (C) a strong wind
 (D) the cold
 (E) all of the above
9. In stanza 2, the “suits and dresses” stare at the mother and her son because the mother and son are
 (A) shivering
 (B) poorly dressed
 (C) out of place
 (D) whispering
 (E) appealing
10. In stanza 2, the mother speaks to her son twice in order to
 (A) show off
 (B) frighten him
 (C) make excuses for herself
 (D) provide information
 (E) comfort him
11. In stanza 2, the boy describes the river as
 (A) coming alive
 (B) a monster
 (C) threatening the bridge
 (D) talking to him
 (E) all of the above
12. The train ride is described as being
 (A) endless and scary
 (B) boring but brief
 (C) between two worlds
 (D) terrifying but harmless
 (E) across the suburbs

Reading Passage C

None of them knew the color of the sky. Their eyes glanced level, and were fastened upon the waves that swept toward them. These waves were of the hue of slate, save for the tops, which were of foaming white, and all of the men knew the colors of the sea. The horizon narrowed and widened, and dipped and rose, and at all times its edge was jagged with waves that seemed thrust
 5 up on points like rocks.

Many a man ought to have a bathtub larger than the boat which here rode upon the sea. These waves were most wrongfully and barbarously abrupt and tall, and each froth-top was a problem in small-boat navigation.

10 Viewed from a balcony, the whole thing would, doubtless, have been picturesque. But the men in the boat had no time to see it. There were other things to occupy their minds.

It would be difficult to describe the subtle brotherhood of men that was here established on the seas. No one said that it was so. No one mentioned it. But it dwelt in the boat, and each man felt it warm him. They were a captain, an oiler, a cook, and a journalist, and they were comrades in a more curiously iron-bound degree than may be common. The hurt captain, lying in the bow,
 15 spoke always in a low voice and calmly; but he could never command a more ready and swiftly obedient crew than the motley three of the boat. There was a comradeship that made the journalist, who had been taught to be cynical, know even at the time that this was the best experience of his life. But no one said that it was so. No one mentioned it.

13. In this passage, the color of the sky is
(A) slate
(B) blue
(C) gray
(D) black
(E) not stated
14. As used in line 2, “hue” means
(A) condition
(B) material
(C) color
(D) texture
(E) density
15. As used in line 2, the phrase “save for”
(line 2) means
(A) instead of
(B) except
(C) from
(D) above
(E) among
16. The fact that “the horizon narrowed
and widened, and dipped and rose”
(lines 3-4) suggests the
(A) coming of the dawn
(B) changing light
(C) inaccuracy of the men
(D) motion of the boat on the sea
(E) passage of time
17. “Viewed from a balcony, the whole
thing would, doubtless, have been
picturesque” (line 9) suggests that
(A) a painting of the scene is needed
(B) people need a picturesque view
(C) one’s view of a situation depends
on where one is
(D) one’s view of nature is affected by
paintings
(E) people often doubt what they see
18. The phrase, “other things to occupy
their minds” (line 10), suggests that the
men are thinking about
(A) survival
(B) knowledge
(C) fishing
(D) conversation
(E) pleasure
19. The captain can command the other
men in a calm voice because
(A) the sea is not loud
(B) the men are united in their purpose
(C) they have worked together a long
time
(D) the boat is close to land
(E) the men are thinking ahead
20. As used in line 16, “motley” means
(A) colorful
(B) curious
(C) uncooperative
(D) quiet
(E) varied
21. As used in line 17, “cynical” means
(A) humorous
(B) talkative
(C) scornful
(D) literary
(E) curious
22. The narrator’s attitude toward the men
in the boat is one of a(n)
(A) participant
(B) critic
(C) painter
(D) observer
(E) oceanographer

Reading Passage D

The first objects that assume a distinct presence before me, as I look far back, into the blank of my infancy, are my mother with her pretty hair and youthful shape, and Peggotty with no shape at all, and eyes so dark that they seemed to darken their whole neighborhood in her face, and cheeks and arms so hard and red that I wondered the birds didn't peck her in preference to apples.

5 I believe I can remember these two at a little distance apart, dwarfed to my sight by stooping down or kneeling on the floor, and I going unsteadily from the one to the other. I have an impression on my mind which I cannot distinguish from actual remembrance, of the touch of Peggotty's forefinger as she used to hold it out to me, and of its being roughened by needlework, like a potato grater.

10 This may be my imagination, though I think the memory of most of us can go farther back into such times than many of us suppose; just as I believe the power of observation in numbers of very young children to be quite wonderful for its closeness and accuracy...What else do I remember? Let me see. There comes out of the cloud, our house – quite familiar, in its earliest remembrance. On the ground-floor is Peggotty's kitchen, opening into a back yard; with a pigeon-
15 house on a pole, in the centre, without any pigeons in it; a great dog-kennel in a corner, without any dog; and a quantity of fowls that look terribly tall to me, walking about, in a menacing and ferocious manner. There is one rooster who gets upon a post to crow, and seems to take particular notice of me as I look at him through the kitchen window, who makes me shiver, he is so fierce. Of the geese outside the side-gate who come waddling after me with their long necks stretched out
20 when I go that way, I dream at night: as a man enviored by wild beasts might dream of lions.

Here is a long walkway – what an enormous perspective I make of it! – leading to our front yard. There is nothing half so green that I know anywhere, as the grass of that yard; nothing half so shady as its trees...And now I walk around the outside of our house, with the latticed bedroom-
25 windows standing open to let in the sweet-smelling air, to the garden at the back, beyond the yard where the empty pigeon-house and dog-kennel are. It is a very preserve of butterflies, as I remember it, with a high fence; where the fruit clusters on the trees, riper and richer than fruit has ever been since, in any other garden, and where my mother gathers some in a basket, while I stand by, furtively bolting gooseberries, and trying to look unmoved.

30 A great wind rises, and the summer is gone in a moment. We are playing in the winter twilight, dancing about the parlor. When my mother is out of breath and rests herself in an elbow-chair, I watch her winding her bright curls round her fingers, and straightening her waist, and nobody knows better than I do that she likes to look so well, and is proud of being so pretty.

35 That is among my very earliest impressions. That, and a sense that we were both a little afraid of Peggotty, and submitted ourselves in most things to her direction, were among the first opinions – if they may be so called – that I ever derived from what I saw.

23. The narrator, as a child, could best be described as
(A) imaginative
(B) educated
(C) silly
(D) loving
(E) miserable
24. In lines 11-13, the narrator suggests that
(A) we should check our memories with others who were there
(B) time alters our memories
(C) hearing about our childhood affects our memories of it
(D) only some young children have good memories
(E) early memories can be trusted more than we realize
25. The description of the geese in lines 20-22 suggests that
(A) the narrator had been hurt by them
(B) the geese thought the narrator was a dog
(C) the narrator enjoyed being with them
(D) the narrator was left alone too much
(E) the narrator was intimidated by the geese
26. As used in line 21, “enviored by” means
(A) polluted by
(B) living among
(C) known among
(D) created by
(E) eaten by
27. The narrator makes “an enormous perspective” (line 23) of the walkway because
(A) it is very long
(B) he is exaggerating it for a painting
(C) it fills his memories
(D) he is seeing it the way he did as a child
(E) he thinks about it for a long time
28. As used in line 30, “furtively” means
(A) slowly
(B) sneakily
(C) mysteriously
(D) politely
(E) dangerously
29. As used in line 30, “unmoved” means
(A) unlucky
(B) athletic
(C) adult
(D) innocent
(E) unhappy
30. In line 31, the seasons change quickly because
(A) the weather in England is unpredictable
(B) children do not have a clear sense of time
(C) the narrator’s memories rush together
(D) there is a hurricane
(E) something sad is about to occur
31. The tone of this entire piece could best be described as
(A) ironic
(B) speculative
(C) regretful
(D) nostalgic
(E) disbelieving

Reading Passage E

Adapted from a piece written by Abraham Lincoln:

5 Niagara Falls! By what mysterious power is it that millions and millions are drawn from all parts of the world to gaze upon Niagara Falls? There is no mystery about the thing itself. Every effect is exactly what any intelligent man knowing the causes would anticipate. If the water moving onward in a great river reaches a point where there is a perpendicular drop of a hundred feet in descent, it is plain the water will have a violent and continuous plunge at that point. It is also plain the water, thus plunging, will foam, and roar, and send up a mist, continuously, and that during sunshine, there will be perpetual rainbows. The mere physical reality of Niagara Falls is only this.

10 Yet this is really a very small part of Niagara's wonder. Its power to excite thought and emotion is its great charm.

The geologist will demonstrate that the plunge was once at Lake Ontario, and has worn its way back to its present position; he will ascertain how fast it is wearing now, and so get a basis for approximating how long it has been wearing back from Lake Ontario, and finally demonstrate by it that this world is at least fourteen thousand years old.

15 The physicist will estimate with approximate accuracy that this vast amount of water constantly pouring down is supplied by an equal amount constantly lifted up, by the sun, through evaporation, and he is overwhelmed in the contemplation of the vast power the sun is constantly exerting in quiet, noiseless operation of lifting water up to be rained down again.

20 But still there is more. Niagara Falls calls up the indefinite past. When Columbus first sought this continent – even when Adam was first created – then, as now, Niagara was roaring here. The eyes of that species of extinct giants, the dinosaurs whose bones fill the mounds of America, have gazed on Niagara, as ours do now. Older than the first man, Niagara is strong, and as fresh today as ten thousand years ago. The mammoth and mastodon – now so long dead, that fragments of their monstrous bones alone testify that they ever lived -- have gazed on
25 Niagara. In that long, long time, it has never been still for a single moment. It has never dried, never slept, never rested.

32. When Lincoln states that there is no mystery to Niagara Falls, he means that
- (A) there is a clear scientific explanation for the falls
 - (B) the falls have no effect on the viewer
 - (C) everything about the falls has been studied
 - (D) visiting the falls is simple
 - (E) there is nothing more to say about the falls
33. As used in line 9, “excite” means
- (A) intimidate
 - (B) inspire
 - (C) evade
 - (D) clarify
 - (E) process
34. As used in line 12, “ascertain” means
- (A) guess
 - (B) schedule
 - (C) demand
 - (D) determine
 - (E) publish
35. The geologist and the physicist both have
- (A) an interest in the science of the falls
 - (B) met with Lincoln during his visit
 - (C) published their studies of the falls
 - (D) all of the above
 - (E) none of the above
36. In the fifth paragraph, when Lincoln says that Niagara Falls “calls up the indefinite past” (line 19), he means
- (A) Niagara Fall’s past has been written about
 - (B) it makes him think of past events in his life
 - (C) it was the dream of explorers to find Niagara
 - (D) it’s hard to know the past of anything
 - (E) Niagara Falls has existed since before recorded time
37. By the end of the passage, Lincoln’s attitude toward Niagara Falls is one of
- (A) fear
 - (B) disapproval
 - (C) satisfaction
 - (D) concern
 - (E) awe
38. In this passage, Lincoln suggests that Niagara Falls is
- (A) timeless
 - (B) unstoppable
 - (C) fascinating
 - (D) all of the above
 - (E) none of the above

Reading Passage F

July came on with that breathless, brilliant heat which makes the plains of Kansas and Nebraska the best corn country in the world. It seemed as if we could hear the corn growing in the night; under the stars one caught a faint crackling in the dewy, heavy-odored cornfields where the feathered stalks stood so juicy and green...

- 5 The burning sun of those few weeks, with occasional rains at night, secured the corn. Once the milky ears were formed, we had little to fear from dry weather. The men were working so hard in the wheat fields that they did not notice the heat—though I was kept busy carrying water for

10 them—and Grandmother and *Ántonia* had so much to do in the kitchen that they could not have told whether one day was hotter than another. Each morning, while the dew was still on the grass, *Ántonia* went with me up to the garden to get early vegetables for dinner. Grandmother made her wear a sunbonnet, but as soon as we reached the garden she threw it on the grass and let her hair fly in the breeze. I remember how, as we bent over the pea-vines, beads of perspiration used to gather on her upper lip like a little moustache.

15 “Oh, better I like to work out-of-doors than in a house!” she used to sing joyfully and unselfconsciously in her broken English. “I not care that your grandmother say it makes me like a man. I like to be like a man.” She would toss her head and ask me to feel the muscles swell in her brown arm.

20 We were glad to have her in the house. She was so gay and responsive that one did not mind her heavy, running step, or her clattery way with pans. Grandmother was in high spirits during the weeks that *Ántonia* worked for us.

25 All the nights were close and hot during that harvest season. The harvesters slept in the hayloft because it was cooler there than in the house. I used to lie in my bed by the open window, watching the heat lightning play softly along the horizon, or looking up at the gaunt frame of the windmill against the blue night sky. One night there was a beautiful electric storm, though not enough rain fell to damage the cut grain. The men went down to the barn immediately after supper, and when the dishes were washed, *Ántonia* and I climbed up on the slanting roof of the chicken-house to watch the clouds. The thunder was loud and metallic, like the rattle of sheet iron, and the lightning broke in great zigzags across the heavens, making everything stand out and come close to us for a moment. Half the sky was checkered with black thunderheads, but all the west was luminous and clear: in the lightning flashes it looked like deep blue water, with the sheen of moonlight on it; and the mottled part of the sky was like marble pavement, like the quay of some splendid seacoast city, doomed to destruction. Great warm splashes of rain fell on our upturned faces. One black cloud, no bigger than a little boat, drifted out into the clear space unattended, and kept moving westward. All about us we could hear the felty beat of the raindrops on the soft dust of the farmyard. Grandmother came to the door and said it was late, and we would get wet out there.

35 “In a minute we come,” *Ántonia* called back to her. “I like your grandmother, and all things here,” she sighed. “I wish my papa live to see this summer. I wish no winter ever come again.”

40 “It will be summer a long while yet,” I reassured her. “Why aren’t you always nice like this, Toni?”

“How nice?”

“Why, just like this; like yourself. Why do you all the time try to be like your brother Ambrosch?”

45 She put her arms under her head and lay back, looking up at the sky. “If I live here, like you, that is different. Things will be easy for you. But they will be hard for us immigrants.”

39. The description of the setting in paragraph 1 suggests that this is a place of
(A) oppression
(B) famine
(C) worldliness
(D) abundance
(E) education
40. When the narrator says that his family was not afraid of the dry weather, he is referring to the fact that
(A) the wheat has already been planted
(B) everyone is able to stay cool in the heat
(C) the corn is fully formed
(D) the corn has already been harvested
(E) *Ántonia* is such a helpful presence
41. The characters don't even notice the intense heat during these few weeks because
(A) they bathe every day
(B) they are always occupied
(C) the constant rains cool them off
(D) the food is so delicious
(E) all of the above
42. The description of *Ántonia* and her statements in lines 14-17 suggest that she is
(A) unconventional
(B) independent
(C) proud
(D) nature-loving
(E) all of the above
43. The passage suggests that *Ántonia* is
(A) the narrator's sister
(B) a student
(C) the narrator's cousin
(D) the family's maid
(E) a distant relative
44. *Ántonia*'s "running step" and "clattery way with pans" (line 19) most strongly suggest her
(A) anger and hard work
(B) fear and exuberance
(C) energy and clumsiness
(D) strength and happiness
(E) mobility and size
45. The narrator seems to view the storm as
(A) frightening
(B) thrilling
(C) silly
(D) confining
(E) ordinary
46. *Ántonia*'s statements in lines 45-46 imply that she
(A) wants to live far away from Kansas and Nebraska
(B) acts like Ambrosch because she adores him
(C) knows that she must put survival above all else
(D) thinks that she is the narrator's equal
(E) lives in a dream world
47. Compared to *Ántonia*'s life, the narrator's life is
(A) difficult
(B) boring
(C) settled
(D) festive
(E) chaotic

Writing Assignment

Living in New York City, we all take journeys, both big and small. Some occur daily, some happen once a year, and others take place on specific occasions.

Write an essay or tell a true story about a journey you have taken, or take every day, in our city. It can be the short walk to the store or to school; a medium length journey to a hospital, place of worship, or of entertainment; or a longer trip across boroughs to visit a relative or friend. These are just some examples of New York City journeys.

Your task is to create a portrait of New York City as it is visible on your trip. Use sensory detail (the five senses: sight, sound, smell, touch, and taste) to describe this slice of the city that you know personally and to reveal what it means to you.

You must write an essay or tell a true story in which you:

- Name and describe real places you are familiar with
- Use sensory detail to create a vivid picture of the city as you know it
- Convey what your New York journey means to you

MATHEMATICS

48. Evaluate the following: $5.6294 + 24.6998$

- (A) 3.03292 (B) 8.09938 (C) 29.3292 (D) 30.3292 (E) 30.9938

49. If the positive difference between 3.2 and 1.09 is multiplied by 0.47, the result is:

- (A) 0.09917 (B) 0.9917 (C) 1.64 (D) 2.58 (E) 9.917

50. What is the value of $\frac{1}{2} \div \left(\frac{1}{2} \div \frac{1}{8} \right)$?

- (A) 4 (B) 8 (C) 16 (D) $\frac{1}{4}$ (E) $\frac{1}{8}$

51. In lowest terms the product of $\frac{3}{4}$, $\frac{5}{12}$, and $\frac{8}{15}$ is:

- (A) $\frac{1}{6}$ (B) $\frac{15}{90}$ (C) $\frac{120}{720}$ (D) $1\frac{7}{10}$ (E) 6

52. What is the value of the following expression?

$$\frac{\frac{7}{2} - \frac{1}{4}}{\frac{2}{3} - \frac{1}{4}}$$

- (A) $\frac{5}{36}$ (B) $\frac{65}{48}$ (C) 3 (D) $\frac{21}{4}$ (E) $\frac{39}{5}$

53. What is the 185th digit in the following pattern 12345678910111213141516....

- (A) 0 (B) 5 (C) 7 (D) 8 (E) 9

54. Copy Cat Copies charges 18 cents for the first copy and 12 cents for each additional copy. What is the greatest number of copies you can get for \$3.00?

- (A) 16 (B) 17 (C) 23 (D) 24 (E) 25

55. The scores of Tim's first four out of six math tests are 82%, 90%, 78%, and 100%. If Tim wants to have a test average of 90%, what must the average of Tim's next two tests be?

- (A) 90% (B) 92% (C) 95% (D) 97% (E) 100%

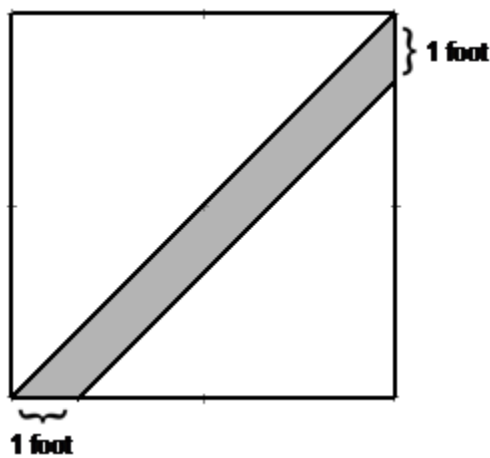
56. Susan begins counting backward from 1298 by 4's, saying one number every 5 seconds. At the same time, Jim begins counting forward from 171 by 3's, saying one number every 5 seconds. What number will they both say at the same time?

- (A) 640 (B) 644 (C) 648 (D) 650 (E) 654

57. Gabe is taller than Helen, and Helen is shorter than Iris. Iris is shorter than both Jack and Keiko. Which of the following statements is true?

- (A) The tallest person must be Gabe.
 (B) The tallest person must be Jack.
 (C) The tallest person must be Keiko.
 (D) Either Jack or Keiko must be the tallest person.
 (E) Gabe, Jack, or Keiko could be the tallest person.

58. It takes 24 feet of fence to surround a square piece of land in Linda's backyard. Linda wants to plant flowers everywhere but on the diagonal sidewalk (shaded in the diagram below). Note that there is 1 foot of sidewalk along two sides of the square as indicated in the diagram below. What is the area of the sidewalk?



- (A) 5 ft^2 (B) 5.5 ft^2 (C) 6 ft^2 (D) 6.5 ft^2 (E) 7 ft^2

59. When the 69th even natural number is subtracted from the 119th odd natural number, what is the result? (The natural numbers are 1, 2, 3, 4,...)

- (A) 49 (B) 51 (C) 99 (D) 101 (E) 103

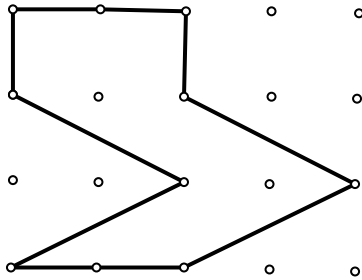
60. What is the smallest prime number that can be written as the sum of three different prime numbers? (A prime number is a number that has only two factors, 1 and itself; 1 is not a prime number.)

- (A) 10 (B) 15 (C) 17 (D) 19 (E) 23

61. If you have six people in a room, and each person shakes hands with every other person exactly once, how many total handshakes happen?

- (A) 6 (B) 12 (C) 15 (D) 21 (E) 720

62. In this grid, the dots are spaced one unit apart, horizontally and vertically. What is the number of square units enclosed by the solid line?



- (A) 5.5 (B) 6 (C) 6.5 (D) 7 (E) 7.5

63. In the expression below, each letter represents a one-digit number. Where the same letter appears, it represents the same number in each case. Each distinct letter represents a different number. In order to make the equation true, what number must replace C?

$$\begin{array}{r} \text{AAA} \\ \text{AAB} \\ + \text{ABC} \\ \hline 2012 \end{array}$$

- (A) 1 (B) 3 (C) 5 (D) 7 (E) 9

64. 15 people received an email and sent it to 3 different friends each, who in turn each sent it to 2 new people. What percent of the total number of people who received the e-mail are the original 15 people?

- (A) 8% (B) 10% (C) 11% (D) $16\frac{2}{3}\%$ (E) 20%

65. Susan is traveling from Queens to Staten Island via Manhattan. There are 3 different trains that travel from her home in Queens to Times Square, 5 trains that run from Times Square to the Staten Island Ferry, and 2 buses that run from the Staten Island Ferry to her home in Staten Island. How many different ways can Susan get from Queens to her home by train and bus, passing through Times Square and the Staten Island Ferry?

- (A) 3 (B) 10 (C) 13 (D) 15 (E) 30

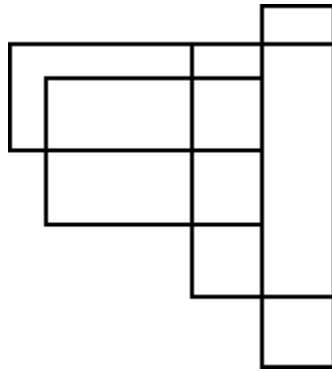
66. Sam sold his bike to Suzie for 35% more than he paid for it. Suzie then sold the bike to Stanley for 20% more than she paid for it. What percent of the original price did Stanley pay for the bike?

- (A) 55% (B) 62% (C) 155% (D) 162% (E) 168.75%

67. Ella spent her whole allowance of \$2.00, plus the 16¢ she had left over from last week, on bubble gum. If the pieces of gum had been a penny cheaper, she would have received three more pieces than she did. How many pieces did she actually buy?

- (A) 8 (B) 9 (C) 16 (D) 24 (E) 27

68. How many 4-sided figures are in this diagram?



- (A) 10 (B) 16 (C) 21 (D) 25 (E) 28

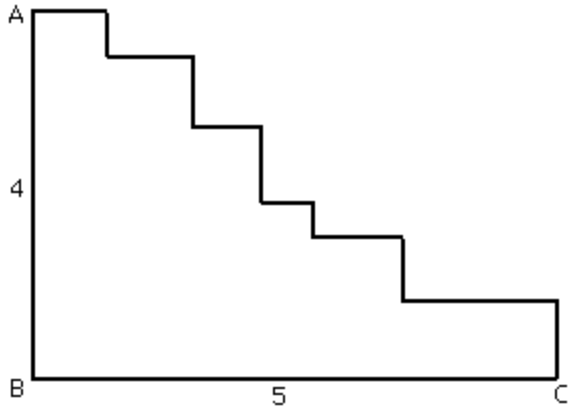
69. If a photo measuring 4 inches by 6 inches is placed in a photo frame that is 2 inches wide all around, what percent of the framed photo is the photo itself?

- (A) 24% (B) 30% (C) 42% (D) 50% (E) 56%

70. Steve, Jerry, and Ron were paid \$29.25 to remove garden gnomes. They each worked four hours, except for Ron, who was 45 minutes late. How much of the \$29.25 should Ron receive?

- (A) \$2.60 (B) \$7.80 (C) \$8.45 (D) \$9.75 (E) \$10.40

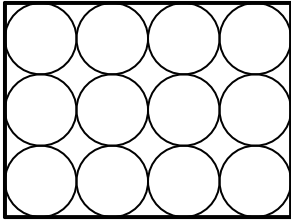
71. In the diagram all the angles that are shown are right angles. The length of $AB = 4$ and $BC = 5$ as indicated in the diagram. What is the perimeter of the entire figure?



- (A) 9 (B) 10 (C) 18 (D) 20 (E) 22
72. Name the four digit number ABCD that satisfies all of the following conditions:
- i) A, B, C, D are the numbers 6, 7, 8, and 9 each used once
 - ii) CD forms a two digit number divisible by 4
 - iii) BCD forms a three digit number divisible by 3
 - iv) ABCD forms a four digit number divisible by 11
- (A) 7876 (B) 7896 (C) 8976 (D) 9768 (E) 9876
73. Every student in the 6th grade at PS 500 must read exactly three of the principal's four favorite books. If 34 read Math for Fun, 36 read Everyone Loves Math, 38 read Cool Math, and 12 read Math is for Me, how many students are in the 6th grade at PS 500?

- (A) 30 (B) 40 (C) 60 (D) 90 (E) 120

74. Twelve round gold medals, each with a radius of three inches, just fit inside a box with four medals in each of three rows. A red tape fits snugly around the sides of this box. What is the length of the tape?



- (A) 14" (B) 28" (C) 42" (D) 84" (E) 422"
75. Two missiles are initially 5000 miles apart. They travel along a straight line directly towards one another, one traveling at 2000 miles per hour and the other at 1000 miles per hour. How many miles apart are they 1 minute before impact?
- (A) 50 (B) 100 (C) 500 (D) 1000 (E) 3000
76. You have a 10 x 10 x 10 inch cube that is made up of little 1 x 1 x 1 inch cubes. You paint the outside of the big cube red. How many of the little cubes have paint on at least one of their sides?
- (A) 456 (B) 488 (C) 598 (D) 600 (E) 1000

77. How many two digit whole numbers are increased by 18 when their digits are reversed?

- (A) 6 (B) 7 (C) 9 (D) 12 (E) 14

78. When starting a new unit, a teacher announces that each day after the first, the class must do twice the total number of problems that had been assigned on all previous days. The class works for 6 days and on the 7th day she says that this is our last day of the unit. On that last day, what fraction of the problems do they still have to complete.

- (A) $\frac{2}{3}$ (B) $\frac{2}{5}$ (C) $\frac{10}{31}$ (D) $\frac{1}{3}$ (E) $\frac{32}{63}$

79. How many two digit numbers are divisible by either 3 or 5?

- (A) 42 (B) 46 (C) 47 (D) 48 (E) 53

80. Rodney has fifty coins, including at least one quarter, that are worth \$1.00. If he loses one coin, what is the probability that it was a dime?

- (A) 0.01 (B) 0.02 (C) 0.04 (D) 0.05 (E) 0.10

81. If a gym class is divided into 4 equal teams, 2 students have to sit out; 5 teams, 1 student has to sit out; 6 teams, 4 students have to sit out. If there are fewer than 70 people in the class, what is the minimum number of students that need to be added so that the class can be divided into 4, 5 and 6 equal teams with no students sitting out?

- (A) 4 (B) 10 (C) 12 (D) 14 (E) 26

82. Jana has a rectangular sheet of cardboard that measures 10 inches by 18 inches. What is the maximum number of 3-inch by 3-inch squares that she can cut from this sheet of cardboard?

- (A) 15 (B) 17 (C) 18 (D) 19 (E) 20

**You have reached the end of the Mathematics section.
You may return to any part of the test to review your work.**

ANSWER KEY

- | | | |
|-------|-------|-------|
| 1. B | 29. D | 57. E |
| 2. A | 30. C | 58. B |
| 3. C | 31. D | 59. C |
| 4. E | 32. A | 60. D |
| 5. A | 33. B | 61. C |
| 6. B | 34. D | 62. B |
| 7. C | 35. A | 63. E |
| 8. C | 36. E | 64. B |
| 9. C | 37. E | 65. E |
| 10. D | 38. D | 66. D |
| 11. E | 39. D | 67. D |
| 12. C | 40. C | 68. D |
| 13. E | 41. B | 69. B |
| 14. C | 42. E | 70. C |
| 15. B | 43. D | 71. C |
| 16. D | 44. C | 72. D |
| 17. C | 45. B | 73. B |
| 18. A | 46. C | 74. D |
| 19. B | 47. C | 75. A |
| 20. E | 48. D | 76. B |
| 21. C | 49. B | 77. B |
| 22. D | 50. E | 78. A |
| 23. A | 51. A | 79. A |
| 24. E | 52. E | 80. C |
| 25. E | 53. C | 81. D |
| 26. B | 54. D | 82. C |
| 27. D | 55. C | |
| 28. B | 56. E | |