

COOPERATIVE ADMISSIONS EXAMINATION

SAMPLE COOP

PRACTICE TEST

Content of the Examination

The Cooperative Admissions Examination contains seven tests measuring both aptitude and achievement. The Cooperative Admissions Examination reflects the New Jersey Core Content Curriculum Standards. The tests, with brief descriptions, are as follows:

Test 1 Sequences

This test measures the student's ability to comprehend a rule or principle implicit in a pattern or sequence of figures, letters, or numbers. The student must analyze the pattern established in a row of figures, letters, or numbers, and then select the answer choice that would continue or complete the pattern. Items involve recognition of spatial relationships, ordered patterns, progressions, and combinations of parts to form a whole.

Test 2 Analogies

This test measures the student's ability to discern various types of relationships among picture pairs and then to infer parallel relationships between incomplete picture pairs. The pictures comprise scenes, people, animals, objects, or abstract graphic symbols. In each item, the student must recognize the nature of the relationship between two pictures and then, given a third picture, find an answer choice to accompany it that will produce a relationship that is parallel to that of the first two pictures.

Test 3 Quantitative Reasoning

This test measures aptitude for thinking with numbers. Quantitative reasoning item formats were developed to be dissimilar to most mathematics achievement test formats and therefore require the student to apply quantitative aptitude rather than learned skills.

Test 4 Verbal Reasoning—Words

This test measures the student's ability to solve verbal problems by reasoning deductively, analyzing category attributes, and discerning relationships and patterns. This measure of verbal ability contains several item formats. Some of the items require the student to identify essential elements of objects or concepts, and other items require the student to classify according to common attributes. Another item type requires the student to infer relationships between separate but related sets of words.

Test 5 Verbal Reasoning—Context

This test measures the student's ability to solve verbal problems by reasoning deductively. These verbal problems require the student to identify essential elements of concepts presented in short passages and draw logical conclusions. This measure of verbal ability contains one item format.

Test 6 Reading and Language Arts

This test measures understanding of reading comprehension, language expression, and vocabulary. Reading comprehension items focus on the central meaning of a passage rather than on surface details. Language items assess the student's ability to understand the structure of words, how words work together to form sentences, how sentences and paragraphs come together to convey ideas, and how language conventions (such as punctuation and capitalization) combine with these structures to clarify and impart meaning. The test also covers aspects of the writing process such as topic selection, editing, and proofreading.

Test 7 Mathematics

This test measures understanding of mathematics concepts. Specific skills include number relations, computation, estimation, operation concepts, measurement, geometry and spatial sense, data analysis, probability, patterns, functions, and reasoning.

Tips on Taking the Test

Preparing for the test:

- Take this sample practice test several times. This is the best way to get ready for the admissions examination.
- Be sure that you understand each type of item that the test contains.
- Become thoroughly familiar with the correct way to mark answers on the answer sheet. There is a sample answer sheet in this practice test.

Before the test:

- Get a good night's sleep! To do your best, you need to be rested.
- Give yourself plenty of time to get to the admissions examination site so that you can relax a bit before taking the test.
- Bring your **admission card** with you (or the sample with the information you received over the phone, together with **verifiable identification**, such as a library card).
- Bring **several No. 2 pencils** with you. Make sure that they are sharp and that the erasers are clean.
- Don't bring any notes, books, or scratch paper with you. Don't bring a calculator watch or a calculator with you. You won't be allowed to take any of these into the examination room.

During the test:

- An examiner will give directions. **Listen carefully!**
- Read *all* the directions in the test book. Be sure that you know exactly what to do in each part. Studying this practice test will not give you all the information you need.
- Use your test book to do scratch work. Don't write on your answer sheet.
- Generally, the questions in each section start with the easier ones and get harder. Plan your time accordingly. Try not to spend too much time on any one question.
- If you think you know the answer, mark it. It is better to try than to leave the answer blank. You should answer all the questions you can in the time you have.
- Make sure that you mark your answers in the correct section of the answer sheet. Mark only one answer for each question. If you mark more than one answer, the whole answer will be scored as incorrect. To change an answer, erase your first answer completely.
- Don't be careless or sloppy. This could lower your score. If you have extra time, check your work.
 - Have you marked your answers in the right spaces?
 - Have you erased as completely as possible any answer you changed?
 - Have you made sure there are no stray marks on your answer sheet?

SAMPLE ANSWER SHEET

SIDE 1

3 IDENTIFICATION NUMBER	4 TEST SITE
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9

5 HIGH SCHOOL CHOICES		
1ST	2ND	3RD
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9

6 DATE OF BIRTH		
Month	Day	Year
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	0 1 2 3 0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9

1 NAME (PRINT)																				
	Last	First	MI	Number and Street	Apt.	City	State	ZIP	Code											
2 ADDRESS																				
TEST 1 SEQUENCES																				
		1	(A)(B)(C)(D)				3	(A)(B)(C)(D)												
				2	(F)(G)(H)(J)															
TEST 2 ANALOGIES																				
		1		(A)(B)(C)(D)																
		2		(F)(G)(H)(J)																
TEST 3 QUANTITATIVE REASONING																				
		1	(A)(B)(C)(D)	3	(A)(B)(C)(D)	5	(A)(B)(C)(D)													
		2	(F)(G)(H)(J)		4	(F)(G)(H)(J)		6	(F)(G)(H)(J)											
TEST 4 VERBAL REASONING—WORDS																				
		1		(A)(B)(C)(D)		3	(A)(B)(C)(D)													
		2		(F)(G)(H)(J)		4	(F)(G)(H)(J)													
TEST 5 VERBAL REASONING—CONTEXT																				
		1		(A)(B)(C)(D)																
		2		(F)(G)(H)(J)																
TEST 6 READING AND LANGUAGE ARTS																				
		1	(A)(B)(C)(D)	4	(F)(G)(H)(J)		7	(A)(B)(C)(D)		10	(F)(G)(H)(J)		13	(A)(B)(C)(D)						
		2		(F)(G)(H)(J)		5	(A)(B)(C)(D)		8	(F)(G)(H)(J)		11		(A)(B)(C)(D)						
		3		(A)(B)(C)(D)		6		(F)(G)(H)(J)		9		(A)(B)(C)(D)		12		(F)(G)(H)(J)				
TEST 7 MATHEMATICS																				
		1	(A)(B)(C)(D)(E)		4	(F)(G)(H)(J)		7	(A)(B)(C)(D)		10	(F)(G)(H)(J)		13	(A)(B)(C)(D)					
		2		(F)(G)(H)(J)(K)		5		(A)(B)(C)(D)		8		(F)(G)(H)(J)		11		(A)(B)(C)(D)		14	(F)(G)(H)(J)	
		3		(A)(B)(C)(D)(E)		6		(F)(G)(H)(J)		9		(A)(B)(C)(D)		12		(F)(G)(H)(J)		15	(A)(B)(C)(D)	

SAMPLE TEST

Test 1 Sequences

For Numbers 1 through 3, choose the response that continues the pattern or sequence.

1



A

B

C

D

2

21 18 _____ 12 9 6

13

14

15

17

F

G

H

J

3

A C E G I _____

H

J

K

L

A

B

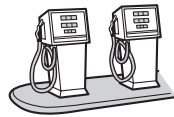
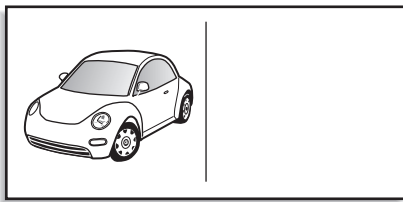
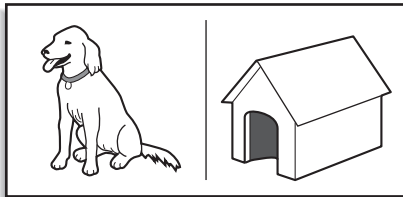
C

D

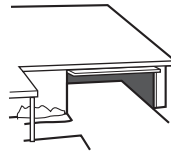
Test 2 Analogies

For Numbers 1 and 2, choose the picture that would go in the empty box so that the bottom two pictures are related in the same way the top two are related.

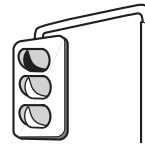
1



A



B

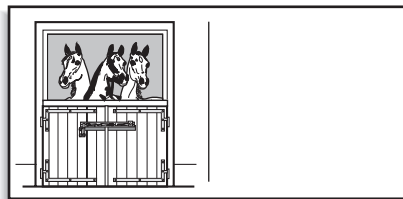


C



D

2



F



G



H

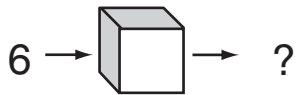
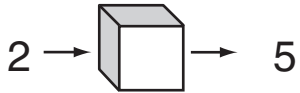


J

Test 3 Quantitative Reasoning

For Numbers 1 and 2, find the relationship of the numbers in one column to the numbers in the other column. Then find the missing number.

1



7

8

9

10

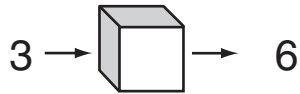
A

B

C

D

2



7

8

9

10

F

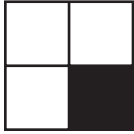
G

H

J

For Numbers 3 and 4, find the fraction of the grid that is covered by black.

3



$\frac{1}{2}$

A

$\frac{1}{4}$

B

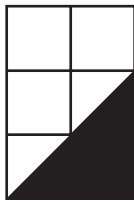
$\frac{1}{6}$

C

$\frac{1}{16}$

D

4



$\frac{1}{2}$

F

$\frac{1}{3}$

G

$\frac{1}{4}$

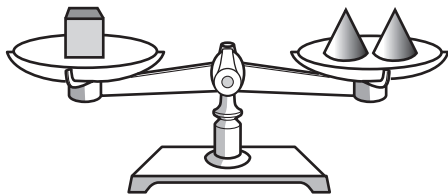
H

$\frac{1}{6}$

J

For Numbers 5 and 6, look at the scale showing sets of shapes of equal weight. Find an equivalent pair of sets that would also balance the scale.

5



A



B



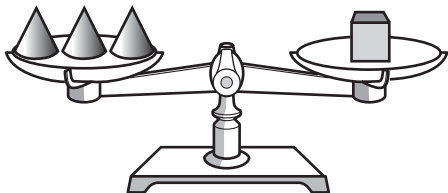
C



D



6



F



G



H



J



Test 4 Verbal Reasoning—Words

For Number 1, find the word that names a necessary part of the underlined word.

1

alphabet

- A** words
- B** letters
- C** numbers
- D** sentences

For Number 2, find the word that is most like the underlined words.

2

shovel pick hoe

- F** garden
- G** dirt
- H** hose
- J** rake

For Number 3, three of the words in the group belong together. Find the word that does not belong.

3

pond

lake

mountain

ocean

A

B

C

D

For Number 4, the words in the top row are related in a certain way. The words in the bottom row are related in the same way. Find the word that completes the bottom row of words.

4

cool

cold

freezing

warm

boiling

F hot

G fire

H heat

J water

Test 5 Verbal Reasoning—Context

For Numbers 1 and 2, find the statement that is true according to the given information.

1

Big Ben is a bell in England. Judy has visited Big Ben.

- A** People often visit Big Ben.
- B** Many bells in England are big.
- C** Big Ben is named after a person.
- D** Judy has been to England.

2

**Craig is looking at the North Star from his yard.
The North Star is far from Earth.**

- F** Craig has a telescope.
- G** The North Star is in a different galaxy.
- H** There is no moon.
- J** Craig is far from the North Star.

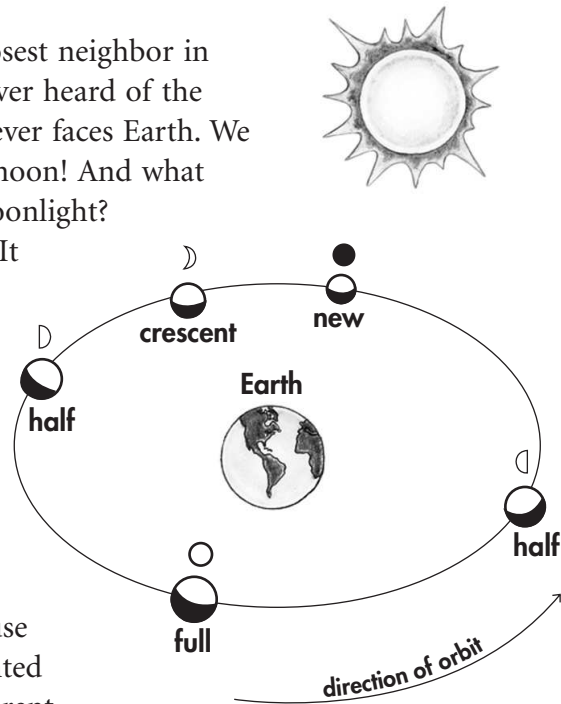
The Moon

Perhaps you have gazed at the moon and wondered why it looks different at different times. This article will help explain why the moon seems to change shape. Read the article. Then do Numbers 1 through 4.

Throughout the ages, the moon, our closest neighbor in space, has excited our curiosity. Have you ever heard of the dark side of the moon? It is the side that never faces Earth. We are always looking at the same side of the moon! And what do we really see when the moon shines? Moonlight?

Actually, the moon has no light of its own. It is like a mirror, reflecting the sun's light. Perhaps the most curious thing about the moon is that even though the side we see is always lighted by the sun, it appears to change its shape. Sometimes we see a full moon, sometimes we see a half moon, and other times we see just a sliver of the moon.

The moon seems to change shape because we see different amounts of the moon's lighted side as it revolves around Earth. These apparent changes are called phases. In the first phase, called the new moon, we see no moon at all. In the nights following, the moon seems to grow from a sliver of light to a crescent moon. After a week, the moon has moved far enough in its circle around Earth for us to see half of its lighted side. This phase is called the half-moon phase. About one week after the half-moon phase, the entire side of the moon facing Earth is lighted by the sun. This is the full-moon phase. As the moon continues on its journey, it appears to grow smaller again, shrinking to a sliver and then disappearing altogether to become, once again, a new moon.



1 The words *full*, *half*, and *crescent* describe *phases* of the moon. Find the word that means about the same as *phases*.

- A names
- B lights
- C colors
- D stages

2 Which of these is the best title for this article?

- F “The Different Faces of the Moon”
- G “The Dark Side of the Moon”
- H “Our Neighbor, the Sun”
- J “Earth’s Journey in Space”

3 Which of these statements about the article is a fact about the moon?

- A The moon does not shine with its own light.
- B Moonlight is more mysterious than sunlight.
- C The moon has a sinister side that intrigues us.
- D People have been more curious about the moon than about the sun.

4 Here are the first four phases of the moon, beginning with the new moon.

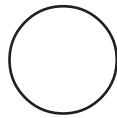


new



crescent

?



full

Which phase is missing?



F



G



H



J

Here is a story a student wrote about seeing the moon one night. There are a couple of mistakes that need correcting. Read the story. Then do Numbers 5 and 6.

1 Last night it was very warm, so I go outside and looked at
2 the full moon. It looked perfectly round and was very bright.
3 I could see many of its features easily, even though I didn't have
4 a telescope. The night was so clear and the moonlight was so
bright that I sat down on the porch steps and read a book.
5 It was the more beautifuller night I've seen in a long time.

5 Which is the best way to write Sentence 1?

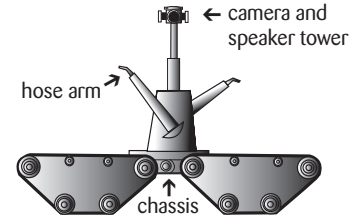
- A** Last night it was very warm, so I go outside and look at the full moon.
- B** Last night it was very warm, so I went outside and looked at the full moon.
- C** Last night it was very warm, I went outside and looked at the full moon.
- D** Best as it is

6 Choose the best way to write Sentence 5.

- F** It was the most beautiful night I've seen in a long time.
- G** It was the beautifullest night I've seen in a long time.
- H** It was the more beautiful night I've seen in a long time.
- J** Best as it is

Read this passage about a robotics technician/firefighter and her robot partner. Then do Numbers 7 through 10.

A Fearless Partner



"Nelson, stop!" Keisha looked carefully at her closed-circuit screen. The images on her screen were distorted by smoke and heat-rippled air, but Keisha could still make out the large metal door leading to the assembly room about twenty feet ahead of Nelson's current position.

The door itself was closed. Good. That meant the workers trapped inside the assembly room might still be okay, if they had managed to secure the door before too much smoke and toxic fumes had entered their area. Keisha would have to be very careful about opening the door.

"Nelson, go!"

"Where?" the robot asked. His voice was mechanical and odd. Keisha would have laughed at his response, but she knew the situation was serious.

"Sorry," she said. Her apology was lost on the robot, of course, but she continued, "Nelson, go forward!" Nelson had been thoroughly programmed with Keisha's own voice frequencies, but she still pronounced each syllable with care.

The robot lurched ahead and quickly reached the door. He came to a halt. On Keisha's next order, he did a complete 360-degree scan of the corridor he had just traversed. His thermal imaging system quickly mapped out the hot spots, which showed up as bright shades of fluorescent green on Keisha's screen. As he made the next scan of the corridor, Keisha gave Nelson the order to spray fire retardant foam on the hot spots. That done, she moved the robot back a few paces and ordered it to spray cold water on the assembly room door. Clouds of steam billowed up, hiding everything for a few seconds. By then the door

had cooled enough for humans to touch.

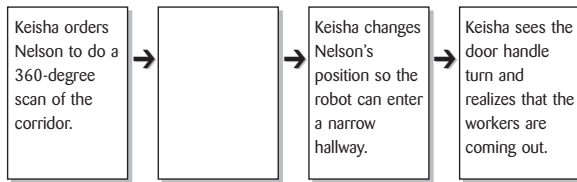
Using Nelson's built-in loudspeaker, Keisha called out to the trapped workers. "HELLO! CAN YOU HEAR ME? IF YOU ARE ABLE TO REACH THE DOOR, TRY TO OPEN IT."

Without waiting for a response, Keisha began to raise Nelson's caterpillar treads to a vertical position. In this way, he would be able to go through the doorway and make the necessary 90-degree turn in the narrow hallway beyond. In the vertical mode, Nelson had a much shorter base, but he was also a full four feet taller. Keisha lowered Nelson's periscopic sight arm even as his wheel base was collapsing into a compact triangular shape.

All she could do now was wait. In her anxiety, a thousand thoughts flashed through her mind. She remembered her training as a robotic technician. She thought about the day she first "met" Nelson. Keisha had read about the development of fire-fighting robots like Nelson, but she never dreamed that one day she would be working with one of the latest models. Together Keisha and Nelson had put out several fires, mostly small but intense and dangerous chemical blazes like this one. This, however, was the first time that other people's lives were at stake.

Only a few seconds had passed, but Keisha's anxiety was reaching the breaking point. She was about to order Nelson to break the door down, when she saw the door handle turning slowly. Then the grimy face of a worker appeared in the opening. "Nelson, old pal, we're sure glad to see you."

7 Here is a time line of some events in the passage.



Which of these events should go in the empty box?

- A** Keisha's anxiety reaches the breaking point.
- B** Keisha recalls the day she first met Nelson.
- C** Keisha orders Nelson to spray the hot spots with foam.
- D** Keisha looks at the distorted images on her closed-circuit screen.

8 Nelson is sent alone into the area that is on fire because

- F** there aren't enough human firefighters
- G** the situation is physically dangerous for humans
- H** Keisha thinks it's too late to save the trapped workers
- J** Keisha wants to show off Nelson's abilities

9 The way the author writes this story creates a feeling of

- A** sorrow
- B** suspense
- C** remorse
- D** indifference

10 The information in this passage could help you answer which of these questions?

- F** What causes fires to break out in modern factories?
- G** Why should firefighters fight toxic fires with foam?
- H** How has modern technology helped save lives in the workplace?
- J** Where can one learn about robot technology?

11 Here are two sentences related to the passage:

Nelson was an average-sized robot.

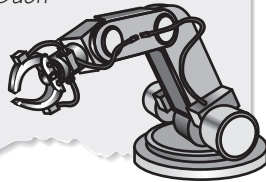
The robot traveled on caterpillar treads that helped him to go almost anywhere.

Select the answer choice that best combines the two sentences into one.

- A** Nelson was an average-sized robot, and traveling anywhere on caterpillar treads.
- B** Nelson was average sized, which helped the robot travel on caterpillar treads almost anywhere.
- C** Nelson traveled on caterpillar treads, and was an average-sized robot, and could go almost anywhere.
- D** Nelson, an average-sized robot, traveled on caterpillar treads that helped him go almost anywhere.

12 Choose the best topic sentence for this paragraph.

_____ . They are used to fight fires, spray-paint automobiles, assemble tiny electronic circuits, and do repetitive jobs on assembly lines. Scientists have also developed robots that “see” using television cameras and “feel” using electronic sensors. Such robots are often used for sea-floor and planetary exploration.



- F** In the Czech language, the word *robot* means drudgery.
- G** Robots are prominent in science fiction novels and films.
- H** On television and in movies, most robots look almost human.
- J** Robots perform many tasks that are boring, difficult, or dangerous for people.

13 Choose the sentence that is written correctly.

- A** Nelson lurches, spins, and turns when he moved around.
- B** Nelson responds only to Keisha, whom is a robotics technician.
- C** Robot firefighters will be more common in the future than they are now.
- D** If she hadn't seen that worker, Keisha would of made Nelson break down the door.

Test 7 Mathematics

1

$$5.0 - 0.3 =$$

- A 4.7
- B 2.0
- C 5.3
- D 5.7
- E None of these

2

$$\begin{array}{r} \frac{3}{4} \\ + \frac{1}{4} \\ \hline \end{array}$$

- F 1
- G $\frac{1}{2}$
- H $1\frac{1}{4}$
- J $\frac{1}{4}$
- K None of these

3

$$-24 + -4 =$$

- A -20
- B 28
- C -28
- D 20
- E None of these

The students at Greg's school raised money to help pay for school projects. The charts show how the money was raised and how it was spent. Study the charts. Then do Numbers 4 through 6.

How Money Was Raised

Car Wash	\$ 750
Flea Market	\$2500
Used Book Sale	\$ 750

How Money Was Spent

Field Trips	\$1500
Computer Lab	\$ 900
Band Equipment	\$1600

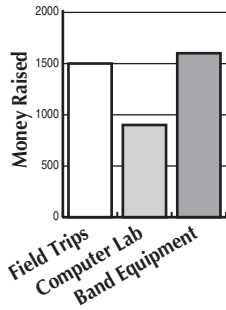
4 Which of these numbers represents the part of the total money raised that was spent for field trips?

- F 37.5%
- G $\frac{2}{5}$
- H 0.15
- J five-eighths

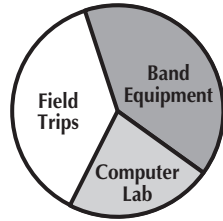
5 The students found 500 things to sell at the Flea Market. Everything was sold. How would you find the average price of each object sold?

- A divide 500 by 2500
- B multiply 500 by 2500
- C divide 4000 by 500
- D divide 2500 by 500

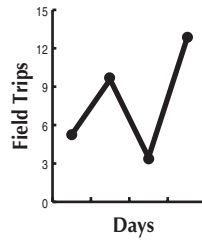
- 6** Greg is designing a graph to show the fraction of the total money raised that will be spent on band equipment this year. These graphs are from past years. Which of these is the best type of graph for him to use?



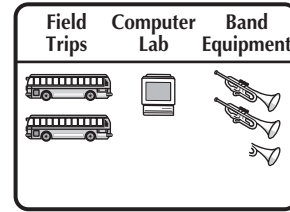
F



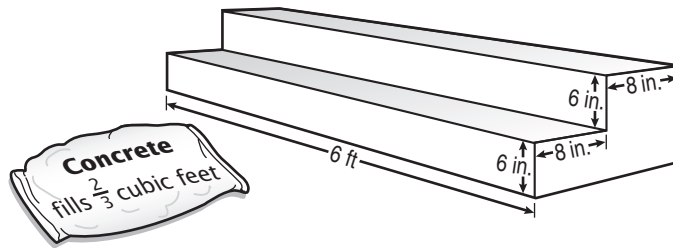
G



H



J

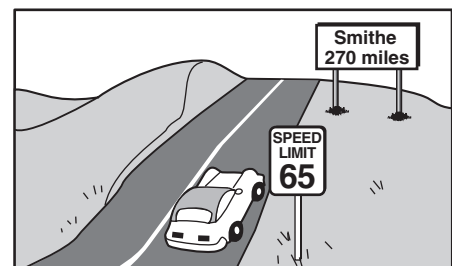


- 7** How many bags of concrete mix will be needed to build this set of stairs?

- A** 9 bags
- B** 6 bags
- C** 4 bags
- D** 13 bags

- 8** Frank is driving 270 miles from Arnett to Smithe. His speed will vary between 55 and 65 miles per hour. Which of these is the best estimate of how long the trip will take?

- F** less than 4 hours
- G** between 4 and 5 hours
- H** between 5 and 6 hours
- J** more than 6 hours

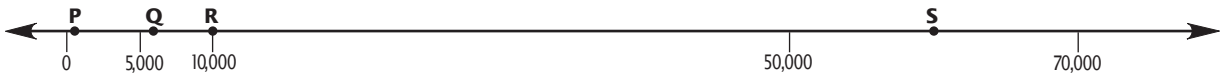


- 9** Eric hopes to sell $\frac{1}{3}$ of a dozen paintings he has finished for the Art Fair. Which equation should you solve to find the number of paintings that he wants to sell?



- A** $\frac{1}{3} = 12n$
- B** $3n = 12$
- C** $4n = 12$
- D** $\frac{1}{3}n = 12n$

- 10** Which of these points on the number line represents 6×10^3 ?

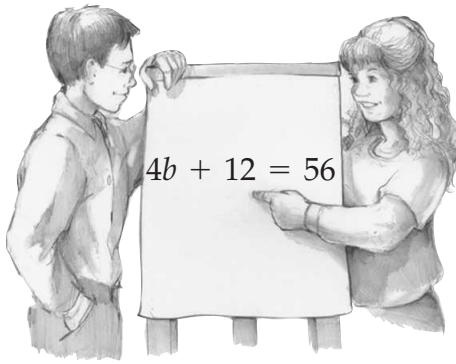


- F** Point P
- G** Point Q
- H** Point R
- J** Point S

- 11** Margot's shopping list shows the prices of all the things that she bought. She paid no added tax. Which of these is the least amount of money that she could have given the clerk to pay for her purchases?

bread	
cereal	69¢
apples	\$3.29
lettuce	\$1.59
rice	29¢
milk	\$1.19
meat	\$1.89
peas	\$3.99
	39¢

- A** \$10
- B** \$15
- C** \$20
- D** \$25

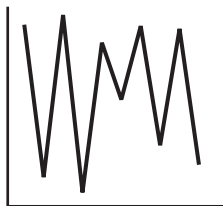


12 Alex and Jessie were working on this equation during math class: $4b + 12 = 56$. Jessie plans to subtract 12 from both sides, then divide by 4. Alex plans to divide both sides by 4, then subtract 12. Which of these statements is true?

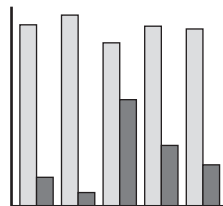
- F** Only Jessie has a correct strategy.
- G** Only Alex has a correct strategy.
- H** Both Jessie and Alex have a correct strategy.
- J** Neither Jessie nor Alex has a correct strategy.

13 Which type of graph most clearly shows a comparison of the relative high and low temperatures among the cities?

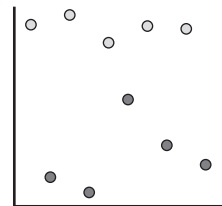
EXTREME TEMPERATURES		
City	High	Low
Portland, OR	107°F	-3°F
Omaha, NE	114°F	-14°F
Honolulu, HI	94°F	53°F
San Francisco, CA	106°F	20°F
Charleston, SC	104°F	6°F



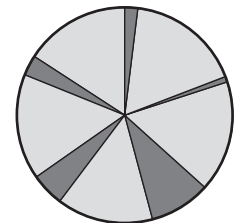
A



B



C



D

- 14** Joey invented an electric light device to put on his 26-inch diameter bicycle wheel. Every time the tire makes a full revolution, a wire touches a battery contact and a light flashes on the back of the bike seat. How many times will the light flash if he rides 50 yards?

$$\pi = 3.14$$

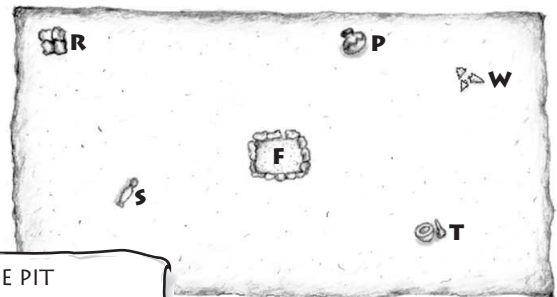
- F** 2 times
- G** 7 times
- H** 22 times
- J** 82 times



- 15** Archaeologists use coordinate systems to map the locations of objects found during a dig. These maps can later be used to learn about the culture of ancient civilizations.

The fire pit marks the origin. Pottery is located at coordinates (2, 3). Which item is located at (4, -2)?

- A** Rock Column
- B** Statue
- C** Tools
- D** Weapons



F	FIRE PIT
P	POTTERY
R	ROCK COLUMN
S	STATUE
T	TOOLS
W	WEAPONS

Answer Key for Sample Test

Test 1 Sequences

1. A
2. H
3. C

Test 2 Analogies

1. B
2. H

Test 3 Quantitative Reasoning

1. C
2. J
3. B
4. G
5. A
6. H

Test 4 Verbal Reasoning—Words

1. B
2. J
3. C
4. F

Test 5 Verbal Reasoning—Context

1. D
2. J

Test 6 Reading and Language Arts

1. D
2. F
3. A
4. J
5. B
6. F
7. C
8. G
9. B
10. H
11. D
12. J
13. C

Test 7 Mathematics

1. A
2. F
3. C
4. F
5. D
6. G
7. A
8. G
9. B
10. G
11. B
12. H
13. B
14. H
15. C