

Mathematics & Reading Standardized Testing Practice for Private School Admission to Grade 7

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Each year in Hawaii, tens of thousands of public and private school students take standardized tests as part of school-wide and statewide assessments as well as academic ability tests for admission to private school. These standardized tests may include the ISEE (Independent School Entrance Exam – ERB), the CTBS (Comprehensive Tests of Basic Skills), the TerraNova, the Stanford Achievement Test and the ITBS (Iowa Tests of Basic Skills).

A pervasive characteristic of standardized tests for current fifth and sixth graders is that they are challenging, oftentimes featuring Mathematics and Reading test questions a grade level or more above your child's current public or private school curriculum. A reason for this is that standardized tests used for the admission process target a smaller, more competitive group of students applying for top private schools across the nation.

Arguably the most important factor in standardized test preparation is the usage of **relevant study materials**. While it is reasonably simple to find intelligent and enthusiastic test preparation instructors, it is relatively difficult to obtain study materials that systematically and efficiently prepare an eleven or twelve-year-old for an intensive and multifaceted private school academic ability test.

To better prepare the dozens of fifth and sixth graders I coach each year, I have used my 15+ years of teaching / test-preparation / curriculum-development experience to create a study guide that closely approximates the sequence, scope, phrasing and difficulty level of actual standardized tests. I have accomplished this through years of meticulous research into individual standardized test questions and through information acquired from former test participants.

About the Author

Kevin Ninomiya has a B.A. in Mathematics (UH-Manoa) and a Master of Education. He has written manuals for database training and electronic grade-check systems for the Department of Education. He has a license to teach secondary mathematics in the State of Hawaii and has accumulated over 15 years of teaching / tutoring experience in test preparation and mathematics (arithmetic to college calculus / statistics). He was a certified SAT / GRE instructor for one of the largest test preparation companies in the United States. He has trained hundreds of students in preparation for the SSAT, SAT / ACT, GED and GRE exams.

Place Value

1. What does the 3 in 93,472 represent?

- (A) three
 - (B) thirty
 - (C) three hundred
 - (D) three thousand
 - (E) thirty thousand
-

2. What is the numeral for six hundred eighty thousand, forty-seven?

- (A) 6,847
 - (B) 60,847
 - (C) 68,047
 - (D) 608,047
 - (E) 680,047
-

3. What is the simplest name for $(7 \times 10^2) + (8 \times 10) + (0 \times 1)$?

- (A) 780
 - (B) 781
 - (C) 7,080
 - (D) 7,081
 - (E) 7,800
-

4. The 9 in 479,831,526 has a value of

- (A) 90 thousand
 - (B) 9 hundred thousand
 - (C) 9 million
 - (D) 90 million
 - (E) 900 million
-

5. Eighty million, two hundred thousand, thirteen is the same as

- (A) 80,020,013
 - (B) 80,200,013
 - (C) 8,200,013
 - (D) 80,020,130
 - (E) 80,213,000
-

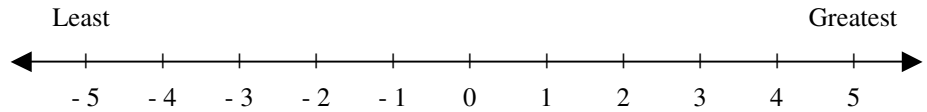
6. $(5 \times 10^3) + (7 \times 10^2) + (0 \times 10) + (4 \times 1)$ in **standard form** is

- (A) 574
- (B) 5,704
- (C) 5,740
- (D) 57,004
- (E) 57,040

Negative Numbers

1. Which number is between -2 and 1 ?

- (A) -3
- (B) 0
- (C) 3
- (D) -4
- (E) 2



2. Which is the *greatest* number?

- (A) 1
- (B) -5
- (C) 0
- (D) -1
- (E) -4

3. What numbers are in order from **least to greatest**?

- (A) $1, -2, -4$
- (B) $-2, -4, 1$
- (C) $-2, 1, -4$
- (D) $1, -4, -2$
- (E) $-4, -2, 1$

4. A car was traveling at 46 miles per hour. It decreased its speed by 19 miles per hour, and then increased it by 14 miles per hour. How fast is it going now?

- (A) 35 miles per hour
- (B) 38 miles per hour
- (C) 41 miles per hour
- (D) 44 miles per hour
- (E) 47 miles per hour

5. A helicopter was flying at 950 feet. It went up 780 feet, and then went down 360 feet. At what altitude is the helicopter flying now?

- (A) 1,250 feet
- (B) 1,290 feet
- (C) 1,330 feet
- (D) 1,370 feet
- (E) 1,410 feet

6. A month ago, an item was selling for \$12.40. During the month, it rose \$2.83, and then fell \$4.75. What is it selling for now?

- (A) \$9.88
- (B) \$10.48
- (C) \$11.08
- (D) \$11.68
- (E) \$12.28

Substitution

1. If $x = 8$, then $(13 + x) \div 3 =$

- (A) 5
 - (B) 6
 - (C) 7
 - (D) 8
 - (E) 9
-

2. The value of n is 6. What is $4n + 9$ equal to?

- (A) 19
- (B) 23
- (C) 29
- (D) 31
- (E) 33

Remember: $5p = 5 \times p$

3. Using the information in the box, which is equivalent to $a \times b - c$?

$a = 5$
$b = 3$
$c = 12$

- (A) 3
 - (B) 4
 - (C) 5
 - (D) 6
 - (E) 7
-

4. Which number, when substituted for P , would satisfy the equation $P \div 8 = 8$?

- (A) 1
 - (B) 8
 - (C) 16
 - (D) 64
 - (E) 88
-

5. What is the value of $x^2 + 2x$, when $x = 7$?

- (A) 28
- (B) 63
- (C) 78
- (D) 91
- (E) 93

Remember: $5p = 5 \times p$

6. For $y = 7$, $26 - (10 + y) =$

- (A) 7
- (B) 8
- (C) 9
- (D) 10
- (E) 11

Line Graphs

Questions 1-3 refer to the graph.

1. By how many dollars did Jill's savings account balance grow from 2009 to 2010?

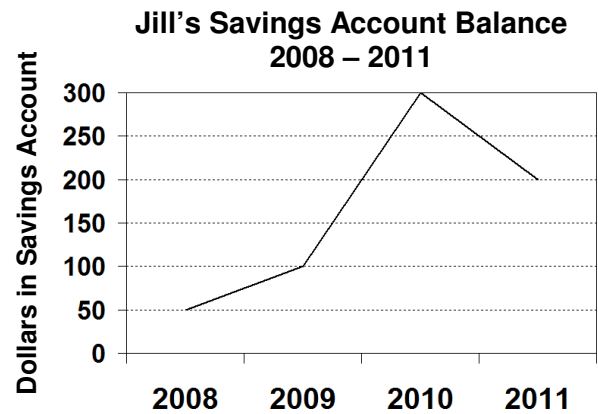
- (A) \$50
- (B) \$100
- (C) \$150
- (D) \$200
- (E) \$250

2. Jill's savings account balance in 2008 is what percent of her savings account balance in 2011 ?

- (A) 10%
- (B) 25%
- (C) 50%
- (D) 75%
- (E) 90%

3. If Jill's account balance in 2007 was half her account balance in 2010, what was her account balance in 2007?

- (A) \$50
- (B) \$100
- (C) \$150
- (D) \$200
- (E) \$250



Questions 4-6 refer to the graph.

4. Jon's average salary from 2008 to 2011 was

- (A) \$20,000
- (B) \$25,000
- (C) \$30,000
- (D) \$35,000
- (E) \$40,000

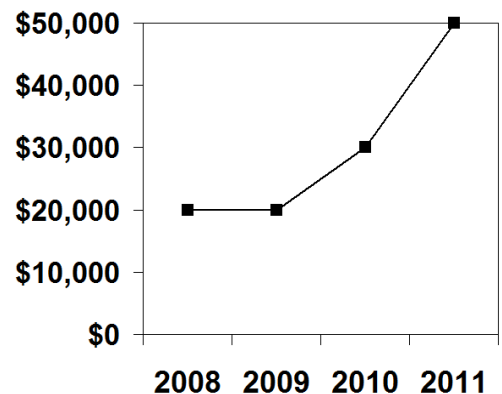
5. Jon's increase in salary from 2010 to 2011 was how much greater than his increase in salary from 2009 to 2010 ?

- (A) \$5,000
- (B) \$10,000
- (C) \$20,000
- (D) \$30,000
- (E) \$40,000

6. Jon's salary in 2009 was what percent of his salary in 2011 ?

- (A) 20%
- (B) 25%
- (C) 30%
- (D) 40%
- (E) 50%

Jon's Salary: 2008 – 2011



Area

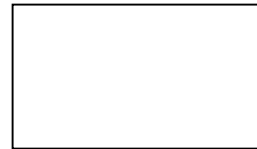
1. What is the **area** of a square with a perimeter of 8?

- (A) 1
- (B) 4
- (C) 9
- (D) 16
- (E) 25

Area of a **square** = side \times side

2. If the area of the rectangle is 40 square centimeters, what is its **width**?

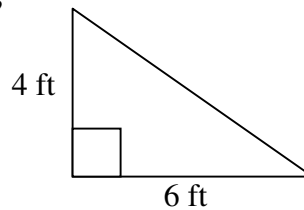
- (A) 3 cm
- (B) 4 cm
- (C) 5 cm
- (D) 6 cm
- (E) 7 cm



Area of a **rectangle** = length \times width

3. What is the **area** of the triangle in square feet?

- (A) 10
- (B) 12
- (C) 16
- (D) 20
- (E) 24



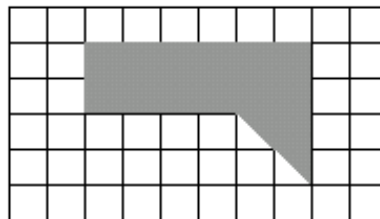
Area of a **triangle** = $\frac{1}{2} \times$ base \times height

4. A square and rectangle have the same area. If the area of the square is 36 and the width of the rectangle is 4, what is the **length** of the rectangle?

- (A) 6
- (B) 7
- (C) 8
- (D) 9
- (E) 10

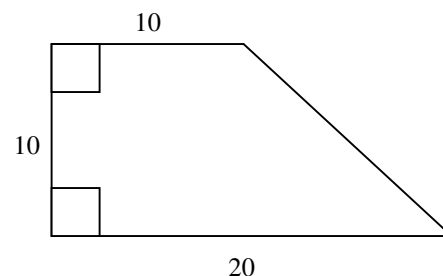
5. What is the area of the figure?

- (A) 11 square units
- (B) 12 square units
- (C) 13 square units
- (D) 14 square units
- (E) 15 square units



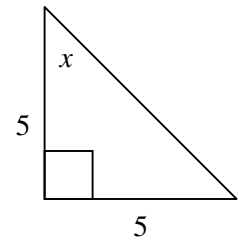
6. What is the area of the polygon?

- (A) 120
- (B) 130
- (C) 140
- (D) 150
- (E) 160



206. What is the degree measure of x ?

- (A) 35
- (B) 40
- (C) 45
- (D) 50
- (E) 55

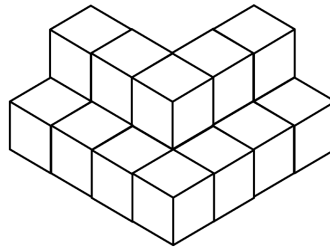


207. If $\frac{3}{4} < N < \frac{9}{10}$, then N could be

- (A) 0.5
- (B) 0.6
- (C) 0.7
- (D) 0.8
- (E) 0.9

208. The figure is made up of stacked cubes.
How many cubes were used to make the figure?

- (A) 14
- (B) 15
- (C) 16
- (D) 17
- (E) 18



209. If 2 additional black tiles are placed on the board so that each column and row has exactly 2 black tiles, what will be the sum of the numbers still showing?

- (A) 66
- (B) 67
- (C) 68
- (D) 69
- (E) 70

1	■	3	■
■	6	7	■
9	■	11	12
13	14	■	16

210. Each person contributed the same amount toward a \$30 dinner.
Which of the following CANNOT be the amount each gave?

- (A) \$2.50
- (B) \$6
- (C) \$7.50
- (D) \$8
- (E) \$10

Dorothy lived in the midst of the great Kansas prairies with Uncle Henry, a farmer, and Aunt Em, the farmer's wife. Their house was small, for the lumber to build it had to be carried by wagon many miles. There was no cellar except a small hole dug in the ground, called a cyclone cellar. The family could go there in case one of those great whirlwinds arose, mighty enough to crush any building in its path.

5 When Dorothy stood in the doorway and looked around, she could see nothing but the great gray prairie on every side. The sun had baked the plowed land into a gray mass, with little cracks running through it. Once the house had been painted, but the sun blistered the paint and the rains washed it away. Now the house was as dull and gray as everything else.

When Aunt Em came there to live she was a young, pretty wife. The sun and wind had changed her, too.

10 They had taken the sparkle from her eyes and left them a sober gray. They had taken the red from her cheeks and lips, and they were gray also. When Dorothy, who was an orphan, first came to her, Aunt Em had been so startled by the child's laughter that she would scream and press her hand upon her heart whenever Dorothy's merry voice reached her ears. She looked at the little girl with wonder that she could find anything to laugh at.

-L. Frank Baum

46. Which word does NOT describe Uncle Henry and Aunt Em's life?

- (A) unprepared
- (B) confined
- (C) isolated
- (D) colorless
- (E) agricultural

47. According to the first paragraph, Uncle Henry and Aunt Em's house was small *most likely* because

- (A) larger homes were more vulnerable to tornados.
- (B) close-knit families preferred smaller homes.
- (C) the nearest forest was many miles away.
- (D) personal belongings were stored in the cellar.
- (E) the sun and rain damaged it over the years.

48. In lines 11-13, why was Aunt Em surprised by Dorothy's laughter?

- (A) Aunt Em did not have a good sense of humor.
- (B) The sun had changed the color of Dorothy's lips.
- (C) Orphan children are oftentimes sad and lonely.
- (D) Aunt Em would scream each time Dorothy laughed.
- (E) It seemed so out of place with difficult farm life.

49. In the passage, the sun is mentioned as having affected which of the following?

- I. Uncle Henry's hair**
- II. Aunt Em's cheeks**
- III. Uncle Henry and Aunt Em's house**
- IV. The farmland**

- (A) I, II and III only
- (B) I, II and IV only
- (C) I, III and IV only
- (D) II, III and IV only
- (E) I, II, III and IV

50. The author would *most likely* agree that Dorothy's personality

- (A) was most unusual for a girl from Kansas.
- (B) infused unexpected energy into Aunt Em.
- (C) varied according to the weather.
- (D) produced mild irritation in Uncle Henry.
- (E) was characteristic of most orphans.

The Lewis and Clark Expedition of 1804-06 was the fulfillment of a longtime dream of Thomas Jefferson. The success of that incredible project owes much to its two leaders, the scientific-minded Meriwether Lewis and the more practical-minded William Clark. What they accomplished has been called one of the great achievements of exploration. They basically opened up all the possibilities of the vast land west of the Mississippi River to the people of the United States. But Lewis and Clark did not do it alone. Their most famous assistant during the transcontinental journey was a young Indian woman—Sacagawea. Her life remains largely a mystery but her legend lives on as strong as ever.

5 Early twentieth-century historians tended to glorify her role. More **recent writers**, however, tend to minimize her contribution, and even adopt a somewhat negative view of her assistance to the explorers. The truth no doubt lies somewhere in between. It certainly was not the “Sacagawea Expedition”. She did not guide Captains Lewis and Clark all the way to the Pacific Ocean. But she did know some of the geography they passed through. She did interpret for them when they came across Shoshone-speaking Indians. The U.S. government has not overlooked her accomplishments. A Sacagawea one-dollar coin is expected to replace the Susan B. Anthony dollar coin.

-Quig Nielsen

96. The passage is mainly about

- (A) the strengths and limitations of a famous expedition.
- (B) the role of Native Americans in U.S. exploration.
- (C) the historical accomplishments of Lewis and Clark.
- (D) the realization of a vision by President Jefferson.
- (E) the extent to which Sacagawea helped an expedition.

97. According to the passage, it is reasonable to assume that

- (A) Susan B. Anthony was of Native American ancestry.
- (B) Lewis and Clark had different thinking styles.
- (C) Early historians were very critical of Sacagawea.
- (D) William Clark had visited the Pacific many times.
- (E) Meriwether Lewis was born in Mississippi.

98. Which is mentioned as a major accomplishment of the Lewis and Clark Expedition?

- (A) It led to the discovery of the Pacific Ocean.
- (B) It opened up trade relations with Native Americans.
- (C) It charted unexplored land west of the Mississippi.
- (D) It helped Americans learn the Shoshone language.
- (E) It assisted the political career of Thomas Jefferson.

99. According to the passage, Sacagawea helped Lewis and Clark in which of the following ways?

- I. She allowed passage through restricted Indian land.**
- II. She bridged a language barrier with Native Indians.**
- III. She was familiar with some of the land they traveled.**

- (A) II only
- (B) I and II only
- (C) I and III only
- (D) II and III only
- (E) I, II and III

100. Which, if true, would most *weaken* the view held by “recent writers” (line 8) of Sacagawea?

- (A) A journal entry by William Clark crediting Sacagawea.
- (B) Sacagawea was not actually a member of the Shoshone tribe.
- (C) A decision to not place Sacagawea on the one-dollar coin.
- (D) Sacagawea had previously helped other American explorers.
- (E) Hard evidence that Sacagawea was born near the Pacific Ocean.