XV. Mathematics, Grade 10
Grade 10 Mathematics Test

The spring 2014 grade 10 Mathematics test was based on standards in the 2011 *Massachusetts Curriculum Framework for Mathematics* that match content in the grade 9–10 standards from the 2000 *Massachusetts Mathematics Curriculum Framework*. The standards in the 2011 Framework on the grade 10 test are organized under the five major conceptual categories listed below.

- **Number and Quantity**
- **Algebra**
- **Functions**
- **Geometry**
- **Statistics and Probability**

The *Massachusetts Curriculum Framework for Mathematics* is available on the Department website at www.doe.mass.edu/frameworks/current.html. More information and a list of standards assessable on the spring 2014 test are available at www.doe.mass.edu/transition/2013-14g10math.html.

Mathematics test results for grade 10 are reported under four MCAS reporting categories, which are based on the five Framework conceptual categories listed above.

The table at the conclusion of this chapter indicates each item’s reporting category, the 2011 Framework standard it assesses, and the 2000 Framework standard it assesses. The correct answers for multiple-choice and short-answer items are also displayed in the table.

**Test Sessions**

The grade 10 Mathematics test included two separate test sessions, which were administered on consecutive days. Each session included multiple-choice and open-response items. Session 1 also included short-answer items.

**Reference Materials and Tools**

Each student taking the grade 10 Mathematics test was provided with a grade 10 Mathematics Reference Sheet. A copy of the reference sheet follows the final question in this chapter.

During Session 2, each student had sole access to a calculator with at least four functions and a square root key. Calculator use was not allowed during Session 1.

The use of bilingual word-to-word dictionaries was allowed for current and former English language learner students only, during both Mathematics test sessions. No other reference tools or materials were allowed.
Grade 10 Mathematics

SESSION 1

You may use your reference sheet during this session.
You may not use a calculator during this session.

DIRECTIONS
This session contains fourteen multiple-choice questions, four short-answer questions, and three open-response questions. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.

1 A farmer harvested a total of 364 pumpkins. The pumpkins had an average weight of 10.9 pounds.
Which of the following is closest to the total weight, in pounds, of the pumpkins the farmer harvested?

A. 3,000
B. 3,300
C. 4,000
D. 4,400

2 What is the value of the expression below?

\[-5 + |9 - 11|\]

A. \(-7\)
B. \(-3\)
C. \(15\)
D. \(25\)

3 The dimensions of a triangle, in units, are represented by expressions, as shown in the diagram below.

Which of the following expressions represents the perimeter, in units, of the triangle?

A. \(4k^3 + 3\)
B. \(5k^3 + 3\)
C. \(4k + 3\)
D. \(5k + 3\)
4. Which of the following graphs represents the solution of the system of inequalities below?

\[ y \geq x - 2 \]
\[ y \leq -\frac{2}{3}x + 1 \]

A. 

B. 

C. 

D. 

5. Which of the following integers is closest to the value of the expression below?

\[ \sqrt{10^2 - 5^2} \]

A. 2
B. 5
C. 9
D. 11

6. Ashley surveyed 20 people at random about the number of television sets in their households. The results of her survey are shown in the line plot below.

Based on the line plot, what is the mean number of television sets per household?

A. 2
B. 3
C. 4
D. 5
7. Which of the following is not a solution of the equation below?
\[3x(x - 1)(x - 2) = 0\]
A. \(x = 0\)  
B. \(x = 1\)  
C. \(x = 2\)  
D. \(x = 3\)

8. A triangle is shown on the coordinate plane below.

What is the area of the triangle?
A. 21 square units  
B. 26 square units  
C. 28 square units  
D. 56 square units

9. The bowling scores for 9 friends are shown in the box below.

<table>
<thead>
<tr>
<th>110</th>
<th>62</th>
<th>80</th>
</tr>
</thead>
<tbody>
<tr>
<td>132</td>
<td>126</td>
<td>194</td>
</tr>
<tr>
<td>95</td>
<td>78</td>
<td>95</td>
</tr>
</tbody>
</table>

The mean score is 108 and the median score is 95. Which statement best explains why the mean score is greater than the median score?
A. The score of 95 occurs twice.  
B. The data set includes only a few scores.  
C. The minimum score is well below the other scores.  
D. The maximum score is well above the other scores.
A linear equation is shown below.

\[ y = \frac{2}{3}x + 2 \]

What is the value of \( x \) when \( y = 2 \frac{2}{3} \)?

A. \( 3 \frac{3}{4} \)

B. \( 3 \frac{1}{15} \)

C. \( 1 \frac{2}{3} \)

D. \( 1 \frac{1}{9} \)

If \( y \neq 0 \), which of the following is equivalent to the expression below?

\[ \frac{15y^9}{5y^3} \]

A. \( 3y^3 \)

B. \( 3y^6 \)

C. \( 10y^3 \)

D. \( 10y^6 \)

The diagram below shows a rectangle and its dimensions.

A square has the same area as the rectangle. What is the length of each side of the square?

A. 12 in.

B. 15 in.

C. 30 in.

D. 36 in.
13. Which of the following is equivalent to the expression below?

\[-2(x - 5)\]

A. \(-2x - 5\)
B. \(-2x + 5\)
C. \(-2x - 10\)
D. \(-2x + 10\)

14. Jaya is buying a new car that has a price of $28,495. She is required to pay a sales tax that is 6.25% of the car’s price.

Which of the following estimates is closest to the amount of sales tax Jaya will pay for the car?

A. $1,200
B. $1,400
C. $1,800
D. $2,100
Questions 15 and 16 are short-answer questions. Write your answers to these questions in the boxes provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

15 One solution of the quadratic equation below is \( x = -2 \).

\[ x^2 + 3x + 2 = 0 \]

What is the other solution of the quadratic equation?

16 The circle graph below shows the percentages of the types of coins in a collection.

Types of Coins in Collection

- Buffalo nickel: 36%
- Standing Liberty quarter: 5%
- Mercury dime: 33%
- Wheat penny: 18%
- Franklin half dollar: 8%

There are 700 coins in the collection.

What is the total number of Standing Liberty quarters in the collection?
Ms. Culjak is giving her students their scores on the last math test. She provides each student with an expression that has a value equal to the number of points the student scored on the test.

Leo must score a minimum of 80 points on the test to maintain a B in the class. The expression below represents the number of points Leo scored on the test.

\[ 4 \cdot 6 \div 3 + 5(2 - 6)^2 \]

a. Did Leo score enough points to maintain a B in the class? Show your work or explain how you got your answer.

Gerard estimates that he scored 90 points on the test. The expression below represents the actual number of points Gerard scored on the test.

\[ 9 + 8[4 + 2(3 - 5)^2] - 3 \cdot 4 \]

b. What is the difference between Gerard’s estimate and the actual number of points he scored on the test? Show your work or explain how you got your answer.

Tia was given the expression below to represent the number of points she scored on the test.

\[ \frac{26 - 10 \cdot 10 - 8}{8 \div 4} \]

c. Tia claims that the expression cannot represent the number of points she scored on the test. Explain why Tia’s claim is correct.

Ms. Culjak confirms that Tia’s claim is correct. She says Tia’s expression is missing one set of parentheses. Ms. Culjak also says that Tia scored 76 points on the test.

d. In your Student Answer Booklet, copy Tia’s expression and insert one set of parentheses in the expression so that the value of the expression is 76.
Questions 18 and 19 are short-answer questions. Write your answers to these questions in the boxes provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

18  What is the value, to the nearest tenth, of the expression below?

\[ \sqrt{106} \]

19  In the diagram below, rectangle $MNPQ$ is similar to rectangle $RSTU$.

Based on the given dimensions, what is the length of $QP$?
Questions 20 and 21 are open-response questions.

- BE SURE TO ANSWER AND LABEL ALL PARTS OF EACH QUESTION.
- Show all your work (diagrams, tables, or computations) in your Student Answer Booklet.
- If you do the work in your head, explain in writing how you did the work.

Write your answer to question 20 in the space provided in your Student Answer Booklet.

20 The children’s pool and the adult pool in a recreation center are both in the shape of right rectangular prisms. In the diagram below, the two rectangles represent the children’s pool and the adult pool.

Define $x$ and $y$ as follows:

- $x =$ the width, in yards, of the children’s pool
- $y =$ the length, in yards, of the children’s pool

a. Write an expression using $x$ and $y$ to represent the area of the children’s pool.

The adult pool has the following measurements:

- The width of the adult pool is 3 times the width of the children’s pool.
- The length of the adult pool is 2 times the length of the children’s pool.

b. Write an expression using $x$ and $y$ to represent the area of the adult pool.

c. What is the ratio of the area of the children’s pool to the area of the adult pool? Show or explain how you got your answer.

Both of the pools will be filled with water. The depth of the adult pool is 4 times the depth of the children’s pool.

d. What is the ratio of the volume of water in the children’s pool to the volume of water in the adult pool? Show or explain how you got your answer.
Write your answer to question 21 in the space provided in your Student Answer Booklet.

21. The table below shows the number of years of work experience and the yearly salary, in thousands of dollars, of 8 people who have the same job.

<table>
<thead>
<tr>
<th>Years of Experience, (x)</th>
<th>0</th>
<th>0</th>
<th>5</th>
<th>5</th>
<th>10</th>
<th>10</th>
<th>20</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly Salary, (y) (in thousands of dollars)</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>50</td>
<td>55</td>
<td>70</td>
<td>75</td>
</tr>
</tbody>
</table>

On the grid in your Student Answer Booklet, copy the title, the axes, and the labels exactly as shown below.

a. On the grid you copied into your Student Answer Booklet, make a scatterplot using the data from the table.

b. Draw a line of best fit for the data on the scatterplot you made in part (a).

c. Use the line of best fit you drew in part (b) to predict the yearly salary, in thousands of dollars, for a person who has the same job and 15 years of work experience. Show or explain how you got your answer.

d. Write an equation that represents the line of best fit you drew on the scatterplot. Show or explain how you got your answer.
Grade 10 Mathematics
SESSION 2

You may use your reference sheet during this session.
You may use a calculator during this session.

DIRECTIONS
This session contains eighteen multiple-choice questions and three open-response questions. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.

22. Hooke’s law states that the force needed to stretch a spring varies directly with the length the spring is stretched.
A force of 20 newtons will stretch a spring 5 centimeters. What is the total number of centimeters that a force of 60 newtons will stretch the same spring?

A. 15
B. 20
C. 100
D. 240

23. A right circular cone and some of its measurements are shown in the diagram below.

Based on the diagram, which of the following is closest to the volume of the cone?

A. 13 cm³
B. 38 cm³
C. 113 cm³
D. 151 cm³
24. The table below shows the numbers of televisions sold at a store in different price ranges last month.

<table>
<thead>
<tr>
<th>Price Range</th>
<th>Number of Televisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100–$149</td>
<td>8</td>
</tr>
<tr>
<td>$150–$199</td>
<td>3</td>
</tr>
<tr>
<td>$200–$249</td>
<td>5</td>
</tr>
<tr>
<td>$250–$299</td>
<td>4</td>
</tr>
<tr>
<td>$300–$349</td>
<td>1</td>
</tr>
</tbody>
</table>

Which of the following could be the median price of the televisions sold at the store last month?

A. $140  
B. $180  
C. $210  
D. $240

25. In the equation below, $k$ and $m$ represent rational numbers.

\[ km = 1 \]

Which of the following must be true?

A. either $k$ or $m$ is equal to 1  
B. $k$ and $m$ are both less than 0  
C. $k$ is the multiplicative inverse of $m$  
D. $k$ and $m$ are both the same distance from 0 on a number line
Which of the following graphs represents a line that has an \( x \)-intercept of \(-2\)?

A. 

B. 

C. 

D.
Ben researched the population of his town for each of the last ten years. He created a scatterplot of the data and noticed that the population increased by about the same amount each year. Ben will determine the equation of the line of best fit for his data.

Which of the following statements about the equation of the line of best fit is true?

A. The slope is zero.
B. The slope is positive.
C. The slope is negative.
D. The slope is undefined.

The radius of a large sphere is 8 times the radius of a small sphere. The surface area of the large sphere is how many times the surface area of the small sphere?

A. 8
B. 32
C. 64
D. 512
On a coordinate grid, triangle $PQR$ is translated 4 units up and then reflected over the $y$-axis to form triangle $P'Q'R'$.

Which diagram could show triangle $PQR$, and the location of triangle $P'Q'R'$ after the transformations?
30. In the diagram below, line \( h \) is a transversal of lines \( f \) and \( g \).

![Diagram of lines and transversal]

Which of the following relationships proves that lines \( f \) and \( g \) are parallel?

A. \( \angle 1 \equiv \angle 4 \)
B. \( \angle 1 \equiv \angle 5 \)
C. \( \angle 1 \equiv \angle 6 \)
D. \( \angle 1 \equiv \angle 7 \)

31. In the diagram below, the dimensions of a student ID card are shown rounded to the nearest whole inch.

Which of the following could be the actual area, in square inches, of the front of the card?

A. 8
B. 8.5
C. 15.5
D. 16
Janice observed that the heights of the posters in her apartment are always greater than the widths. Which of the following scatterplots could represent the dimensions of the posters in Janice’s apartment?

A. Poster Dimensions

B. Poster Dimensions

C. Poster Dimensions

D. Poster Dimensions
33. A rectangle has a length of 15 centimeters and a width of 8 centimeters.

Which of the following is closest to the radius of a circle that has an area equal to the area of the rectangle?

A. 3 centimeters  
B. 6 centimeters  
C. 11 centimeters  
D. 19 centimeters

34. The first four terms of a quadratic sequence are shown below.

6, 9, 14, 21, . . .

What is the difference between the 5th term and the 6th term of the quadratic sequence?

A. 3  
B. 7  
C. 11  
D. 13
Tomás made a scatterplot of data he collected. He determined that the \( y \)-intercept of the line of best fit for the scatterplot is negative.

Which of the following could be the scatterplot Tomás made?

A.  

B.  

C.  

D.  
Question 36 is an open-response question.

- BE SURE TO ANSWER AND LABEL ALL PARTS OF THE QUESTION.
- Show all your work (diagrams, tables, or computations) in your Student Answer Booklet.
- If you do the work in your head, explain in writing how you did the work.

Write your answer to question 36 in the space provided in your Student Answer Booklet.

36 A chef is making 20 pounds of fruit salad to sell in his shop. The chef will use only grapes and blueberries in the fruit salad.

Let $x$ and $y$ be defined as follows:

- $x =$ the number of pounds of grapes the chef will use
- $y =$ the number of pounds of blueberries the chef will use

(a) Write an equation in terms of $x$ and $y$ that can be used to represent the total number of pounds of fruit salad the chef will make.

Grapes cost $2.50 per pound, and blueberries cost $4.00 per pound. The chef spent a total of $59.00 for grapes and blueberries for the fruit salad.

(b) Write an equation in terms of $x$ and $y$ that can be used to represent the total cost, in dollars, of the fruit salad.

(c) Use your answers from parts (a) and (b) to determine the number of pounds of grapes and the number of pounds of blueberries the chef will use to make the fruit salad. Show or explain how you got your answer.
Mark your answers to multiple-choice questions 37 through 40 in the spaces provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

37. A student is knitting sweaters to give as gifts. The time it takes the student to knit each sweater is 10% less than the time it took the student to knit each previous sweater. It took the student 14 hours to knit the first sweater. Which of the following is closest to the time it will take the student to knit the third sweater?

A. 10.2 hours  
B. 11.3 hours  
C. 12.6 hours  
D. 16.9 hours

38. Which of the following equations is true for all rational number values of x, y, and z?

A. \(x(y + z) = (y + z)x\)  
B. \(x(y + z) = (x + y)z\)  
C. \(x(y + z) = xy + z\)  
D. \(x(y + z) = (xy)(xz)\)
The scatterplot below shows the relationship between the temperature, in degrees Fahrenheit, at a football game and the number of cups of hot chocolate sold during the game.

Which of the following graphs best represents the line of best fit for this data?

A.  

B.  

C.  

D.
Questions 41 and 42 are open-response questions.

- BE SURE TO ANSWER AND LABEL ALL PARTS OF EACH QUESTION.
- Show all your work (diagrams, tables, or computations) in your Student Answer Booklet.
- If you do the work in your head, explain in writing how you did the work.

Write your answer to question 41 in the space provided in your Student Answer Booklet.

41 A ladder is leaning against the side of an office building, as shown in the diagram below.

The top of the ladder reaches a point on the building that is 16 feet above the ground. The bottom of the ladder is 4 feet from the base of the building.

a. Write an equation that could be used to find \( x \), the length in feet of the ladder.

b. Use the equation you wrote in part (a) to find \( x \), the length, to the nearest tenth of a foot, of the ladder. Show or explain how you got your answer.

A second ladder that is 32 feet in length will be leaned against the same building. The bottom of the second ladder will be placed 7 feet from the base of the building.

c. What is the height, to the nearest tenth of a foot, of the point the top of the second ladder will reach on the building? Show or explain how you got your answer.
The graph below represents \( y \), the height in feet of a ball, \( x \) seconds after the ball was thrown upward from a bridge that crosses a river.

a. What is the \( y \)-intercept of the graph? Show or explain how you got your answer.

b. What does the \( y \)-intercept represent in the context of this situation?

c. After how many seconds did the ball reach its maximum height? Show or explain how you got your answer.

d. What is the maximum height, in feet, the ball reached? Show or explain how you got your answer.

e. After how many seconds did the ball reach the surface of the river? Show or explain how you got your answer.
AREA FORMULAS
square ..................... $A = s^2$
rectangle .................. $A = bh$
parallelogram ............ $A = bh$
triangle ..................... $A = \frac{1}{2}bh$
trapezoid .................. $A = \frac{1}{2}h(b_1 + b_2)$
circle ...................... $A = \pi r^2$

VOLUME FORMULAS
cube .................................. $V = s^3$
(right $s$ = length of an edge)
right rectangular prism ......... $V = lwh$
OR
$V = Bh$
(B = area of a base)
sphere .................................. $V = \frac{4}{3}\pi r^3$
right circular cylinder ........... $V = \pi r^2h$
right circular cone .............. $V = \frac{1}{3}\pi r^2h$
right square pyramid ............ $V = \frac{1}{3}s^2h$

LATERAL SURFACE AREA FORMULAS
right rectangular prism ......... $LA = 2(hw) + 2(lh)$
right circular cylinder ........... $LA = 2\pi rh$
right circular cone ............... $LA = \pi r\ell$
($\ell$ = slant height)
right square pyramid ............ $LA = 2s\ell$
($\ell$ = slant height)

TOTAL SURFACE AREA FORMULAS
cube ................................. $SA = 6s^2$
right rectangular prism ........ $SA = 2(hw) + 2(hw) + 2(lh)$
sphere ............................... $SA = 4\pi r^2$
right circular cylinder ........... $SA = 2\pi r^2 + 2\pi rh$
right circular cone ............... $SA = \pi r^2 + \pi r\ell$
($\ell$ = slant height)
right square pyramid ............ $SA = s^2 + 2s\ell$
($\ell$ = slant height)

CIRCLE FORMULAS
$C = 2\pi r$
$A = \pi r^2$

SPECIAL RIGHT TRIANGLES
\[
\begin{align*}
x & \quad 45^\circ \quad x\sqrt{2} \\
x & \quad 45^\circ \\
y & \quad 60^\circ \quad 2y \\
y & \quad 30^\circ \quad y\sqrt{3}
\end{align*}
\]
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Page No.</th>
<th>Reporting Category¹</th>
<th>Standard¹</th>
<th>Correct Answer² (MC/SA)</th>
<th>2000 Standard³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>240</td>
<td>Number and Quantity</td>
<td>7.EE.3</td>
<td>C</td>
<td>10.N.4</td>
</tr>
<tr>
<td>2</td>
<td>240</td>
<td>Number and Quantity</td>
<td>7.NS.3</td>
<td>B</td>
<td>10.N.2</td>
</tr>
<tr>
<td>3</td>
<td>240</td>
<td>Algebra and Functions</td>
<td>A-APR.1</td>
<td>D</td>
<td>10.P.3</td>
</tr>
<tr>
<td>4</td>
<td>241</td>
<td>Algebra and Functions</td>
<td>A-REI.12</td>
<td>A</td>
<td>10.P.8</td>
</tr>
<tr>
<td>5</td>
<td>241</td>
<td>Number and Quantity</td>
<td>8.NS.2</td>
<td>C</td>
<td>10.N.3</td>
</tr>
<tr>
<td>6</td>
<td>241</td>
<td>Statistics and Probability</td>
<td>S-ID.1</td>
<td>B</td>
<td>10.D.1</td>
</tr>
<tr>
<td>7</td>
<td>242</td>
<td>Algebra and Functions</td>
<td>A-REI.3</td>
<td>D</td>
<td>10.P.6</td>
</tr>
<tr>
<td>8</td>
<td>242</td>
<td>Geometry</td>
<td>G-GPE.7</td>
<td>C</td>
<td>10.G.7</td>
</tr>
<tr>
<td>9</td>
<td>242</td>
<td>Statistics and Probability</td>
<td>S-ID.3</td>
<td>D</td>
<td>10.D.1</td>
</tr>
<tr>
<td>10</td>
<td>243</td>
<td>Algebra and Functions</td>
<td>A-REI.3</td>
<td>C</td>
<td>10.P.6</td>
</tr>
<tr>
<td>11</td>
<td>243</td>
<td>Number and Quantity</td>
<td>8.EE.1</td>
<td>B</td>
<td>10.P.4</td>
</tr>
<tr>
<td>12</td>
<td>243</td>
<td>Geometry</td>
<td>7.G.6</td>
<td>A</td>
<td>10.M.1</td>
</tr>
<tr>
<td>13</td>
<td>244</td>
<td>Number and Quantity</td>
<td>7.EE.3</td>
<td>D</td>
<td>10.N.1</td>
</tr>
<tr>
<td>14</td>
<td>244</td>
<td>Number and Quantity</td>
<td>7.EE.3</td>
<td>C</td>
<td>10.N.4</td>
</tr>
<tr>
<td>15</td>
<td>245</td>
<td>Algebra and Functions</td>
<td>A-REI.4</td>
<td>x = −1</td>
<td>10.P.5</td>
</tr>
<tr>
<td>16</td>
<td>245</td>
<td>Statistics and Probability</td>
<td>6.SP.4</td>
<td>35</td>
<td>10.D.1</td>
</tr>
<tr>
<td>17</td>
<td>246</td>
<td>Number and Quantity</td>
<td>7.EE.3</td>
<td></td>
<td>10.N.2</td>
</tr>
<tr>
<td>18</td>
<td>247</td>
<td>Number and Quantity</td>
<td>8.NS.2</td>
<td>10.3</td>
<td>10.N.3</td>
</tr>
<tr>
<td>19</td>
<td>247</td>
<td>Geometry</td>
<td>G-SRT.5</td>
<td>12</td>
<td>10.G.4</td>
</tr>
<tr>
<td>22</td>
<td>250</td>
<td>Algebra and Functions</td>
<td>A-CED.1</td>
<td>A</td>
<td>10.P.7</td>
</tr>
<tr>
<td>23</td>
<td>250</td>
<td>Geometry</td>
<td>G-GMD.3</td>
<td>B</td>
<td>10.M.2</td>
</tr>
<tr>
<td>24</td>
<td>251</td>
<td>Statistics and Probability</td>
<td>6.SP.5</td>
<td>B</td>
<td>10.D.1</td>
</tr>
<tr>
<td>25</td>
<td>251</td>
<td>Number and Quantity</td>
<td>7.NS.3</td>
<td>C</td>
<td>10.N.1</td>
</tr>
<tr>
<td>26</td>
<td>252</td>
<td>Algebra and Functions</td>
<td>F-I.F.4</td>
<td>A</td>
<td>10.P.2</td>
</tr>
<tr>
<td>29</td>
<td>254</td>
<td>Geometry</td>
<td>G-CO.5</td>
<td>B</td>
<td>10.G.9</td>
</tr>
<tr>
<td>30</td>
<td>255</td>
<td>Geometry</td>
<td>8.G.5</td>
<td>B</td>
<td>10.G.3</td>
</tr>
<tr>
<td>31</td>
<td>255</td>
<td>Number and Quantity</td>
<td>N-Q.3</td>
<td>C</td>
<td>10.M.4</td>
</tr>
<tr>
<td>32</td>
<td>256</td>
<td>Statistics and Probability</td>
<td>S-ID.6</td>
<td>D</td>
<td>10.D.1</td>
</tr>
<tr>
<td>33</td>
<td>257</td>
<td>Geometry</td>
<td>7.G.4</td>
<td>B</td>
<td>10.M.1</td>
</tr>
<tr>
<td>34</td>
<td>258</td>
<td>Statistics and Probability</td>
<td>F-BF.1</td>
<td>C</td>
<td>10.P.1</td>
</tr>
<tr>
<td>36</td>
<td>259</td>
<td>Algebra and Functions</td>
<td>A-REI.6</td>
<td></td>
<td>10.P.8</td>
</tr>
<tr>
<td>37</td>
<td>260</td>
<td>Algebra and Functions</td>
<td>A-CED.1</td>
<td>B</td>
<td>10.P.7</td>
</tr>
<tr>
<td>38</td>
<td>260</td>
<td>Number and Quantity</td>
<td>7.EE.3</td>
<td>A</td>
<td>10.N.1</td>
</tr>
<tr>
<td>40</td>
<td>261</td>
<td>Statistics and Probability</td>
<td>S-ID.6</td>
<td>D</td>
<td>10.D.2</td>
</tr>
<tr>
<td>41</td>
<td>262</td>
<td>Geometry</td>
<td>G-SRT.8</td>
<td></td>
<td>10.G.5</td>
</tr>
<tr>
<td>42</td>
<td>263</td>
<td>Algebra and Functions</td>
<td>F-I.F.4</td>
<td></td>
<td>10.P.7</td>
</tr>
</tbody>
</table>


² Answers are provided here for multiple-choice and short-answer items only. Sample responses and scoring guidelines for open-response items, which are indicated by the shaded cells, will be posted to the Department’s website later this year.

³ The Department is providing the standard from the previous (2000) curriculum framework for Mathematics for reference purposes.