Use the following passage to answer questions 38–40.

Considered one of the great patriots of America's early history, Patrick Henry was an outspoken leader in every protest against British tyranny and in every movement for colonial rights, openly speaking against the unfair taxation and overly burdensome regulations imposed upon the American colonists by the British Parliament. In March 1775, Patrick Henry urged his fellow Virginians to arm themselves in self-defense. He spoke boldly in Richmond, Virginia, during the meeting of the state legislature. He closed that famous speech with the immortal words, "I know not what course others may take; but as for me, give me liberty or give me death." Patrick Henry later served as the first governor of the great state of Virginia, then again as its sixth governor five years later.

38. The author provides a Patrick Henry quote from the state legislature in order to
   a. illustrate the level of bravery of one of the country's founding fathers.
   b. describe the politician as a tempestuous and fiery leader.
   c. demonstrate the leader's commitment to the struggle against oppression.
   d. provide an example of the politician's unvarying pursuit of power.
   e. exhibit the leader's prowess as a poignant orator.

39. It can be inferred from the passage that Patrick Henry was involved in which of the historic colonial or early American events?
   a. authorship of the United States Constitution
   b. participation in the American Revolution
   c. maintenance of the Stamp Act
   d. appeal of the Bill of Rights
   e. secession of the Confederacy

40. Which statement best describes the primary purpose of the passage?
   a. to define the events leading up to the American Revolution
   b. to describe the role one man had in the formation of his country
   c. to compare Patrick Henry with the other great patriots of the time
   d. to illustrate the staying power and impact of a well-constructed quotation
   e. to examine the British injustices that led directly to the Revolution

Skills Test in Mathematics

1. In Mr. Cortez's swim class, \( \frac{1}{5} \) of the students are age nine, and the remaining students are age eight. Once students can tread water for two minutes they are said to be "guppy" level; age is not a factor in this test. \( \frac{1}{5} \) of all the students have reached this level. What is the best estimate of the fraction of students in this class that are eight-year-old "guppies"?
   a. \( \frac{1}{40} \)
   b. \( \frac{2}{13} \)
   c. \( \frac{1}{10} \)
   d. \( \frac{5}{13} \)
   e. \( \frac{5}{40} \)

2. Approximately 9.8 million people live in Los Angeles County, according to the U.S. Census Bureau. One source believes that there are approximately 1.8 cars per person in Los Angeles County. Given this information, what is the best estimate of the total number of cars in Los Angeles County?
   a. 17,640
   b. 176,400
   c. 1,764,000
   d. 17,640,000
   e. 176,400,000
Use the following table to answer questions 3–5.

<table>
<thead>
<tr>
<th>CITY OF HULE 911 CALL FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONTH</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>May</td>
</tr>
<tr>
<td>June</td>
</tr>
<tr>
<td>July</td>
</tr>
<tr>
<td>August</td>
</tr>
<tr>
<td>Sept</td>
</tr>
<tr>
<td>Oct</td>
</tr>
</tbody>
</table>

5. The data in the table supports which of the following conclusions?
   - The city of Hule has a high crime rate.
   - October is always a high crime month.
   - 911 call frequency tended to increase over the period range shown.
   - The number of 911 calls can be used to predict how many times police will be dispatched.
   - The police usually dispatch an officer when a call comes in.

6. The first four terms of a series are given below. What will the seventh term of this series be?
   \[ -5x, -2x - 2, x - 4, 4x - 6 \ldots \]
   - The options are:
     a. \( 7x - 8 \)
     b. \( 10x - 10 \)
     c. \( 10x - 12 \)
     d. \( 13x + 10 \)
     e. \( 13x - 12 \)

Use the following table to answer question 7.

<table>
<thead>
<tr>
<th>DISTANCE TRAVELED FROM CHICAGO WITH RESPECT TO TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIME (HOURS)</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

7. A train moving at a constant speed leaves Chicago for Los Angeles at time \( t = 0 \). If Los Angeles is 2,000 miles from Chicago, which of the following equations describes the distance from Los Angeles at any time \( t \)?
   - The options are:
     a. \( D(t) = 60t - 2,000 \)
     b. \( D(t) = 60t \)
     c. \( D(t) = 2,000 - 60t \)
     d. \( D(t) = 60 - 2,000t \)
     e. \( D(t) = 2,000t - 60t \)
8. Parker spends eight hours a day in the office. If \( \frac{5}{12} \) of her workday is spent answering e-mails, how much time does she spend doing other things?
   a. 4 hours and 40 minutes
   b. 5 hours and 20 minutes
   c. 3 hours and 20 minutes
   d. 4 hours and 20 minutes
   e. 5 hours and 40 minutes

9. A rug weaver is making a rope rug. He has 100 meters of rope. How many pieces will he have if he cuts the rope into 50-centimeter lengths?
   a. 2
   b. 20
   c. 200
   d. 2,000
   e. 5,000

10. Summit County Mortgage is offering a refinance rate of 4\( \frac{3}{4} \)% \(\text{%}\). What decimal equivalent of 4\( \frac{3}{4} \)% would be used to figure out how much the interest would be on a loan from Summit County Mortgage?
    a. 4.34
    b. 0.434
    c. 0.0434
    d. 0.475
    e. 0.0475

11. There is an express train from Chicago that can travel 180 miles in just 150 minutes. What is the average speed of the train in miles per hour?
    a. 120 miles per hour
    b. 30 miles per hour
    c. 90 miles per hour
    d. 72 miles per hour
    e. 75 miles per hour

12. Maddie’s soccer team used three different colors for their socks: maroon socks for tournaments, gold socks for away league games, and white socks for home league games. Maddie owns two pairs of tournament socks, three pairs for away league games, and four pairs for home league games, but she is terrible about matching or folding them and just stuffs them all into a drawer. If she grabs a sock at random from her sock drawer, what is the probability that it will NOT be white?
    a. \( \frac{5}{9} \)
    b. \( \frac{4}{9} \)
    c. \( \frac{2}{3} \)
    d. \( \frac{7}{9} \)
    e. \( \frac{5}{18} \)

13. In the United States, the yearly average is 15 births for every 1,000 people. Which of the following proportions can be used to determine \( x \), the total number of births expected in one year if the population is 301,000,000?
    a. \( \frac{15}{10} = \frac{x}{301,000,000} \)
    b. \( \frac{15}{1,000} = \frac{301,000,000}{x} \)
    c. \( \frac{1}{15} = \frac{x}{301,000,000} \)
    d. \( \frac{1}{15} = \frac{301,000,000}{x} \)
    e. \( \frac{15}{1,000} = \frac{x}{301,000,000} \)
14. Which fraction has the largest value?
   a. \( \frac{11}{100} \)
   b. \( \frac{6}{50} \)
   c. \( \frac{7}{25} \)
   d. \( \frac{23}{200} \)
   e. \( \frac{1}{10} \)

15. For $2, a person can throw 3 balls at a dunk-tank target in an attempt to dunk whoever is sitting on the platform. All proceeds from the dunk tank go to the police department. Of the 252 balls thrown at the target while Police Chief Hector Bailey was on the platform, only 12 resulted in a dunking. On average, how much money was spent for each dunking?
   a. $21.00
   b. $14.00
   c. $16.80
   d. $10.50
   e. $7.00

16. If \( R \) is divisible by 4, \( S \) is divisible by 5, and \( B \) is divisible by 3, then any multiple of \( RBS \) must be divisible by all the following EXCEPT
   a. 6
   b. 8
   c. 10
   d. 12
   e. 15

17. What is the area, in square units, of the following figure drawn on the coordinate grid?

18. If \( H = 2w, \) and \( G = 3w - 1, \) then what will the value of \( 5H - 4G \) be in terms of \( w? \)
   a. \( -2w + 4 \)
   b. \( -2w - 4 \)
   c. \( 2w + 4 \)
   d. \( 2w \)
   e. \( -2w \)
19. Vinyl records at Joe's music store cost between $7 and $20. The table below shows the number of records sold during a period of four days. Which inequality represents the sales, not including tax, of records at Joe's store during those four days?

<table>
<thead>
<tr>
<th>DAY OF THE WEEK</th>
<th>NUMBER OF RECORDS SOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>15</td>
</tr>
<tr>
<td>Tuesday</td>
<td>20</td>
</tr>
<tr>
<td>Wednesday</td>
<td>10</td>
</tr>
<tr>
<td>Thursday</td>
<td>15</td>
</tr>
</tbody>
</table>

a. $0 \leq s \leq 60$
b. $7 \leq s \leq 20$
c. $70 \leq s \leq 400$
d. $70 \leq s \leq 1,200$
e. $420 \leq s \leq 1,200$

20. A rectangular yard is 30 feet wide. The length of the yard is $\frac{4}{3}$ the width. If Jeannie wants to hang a clothing line diagonally across the yard, how many feet of line will Jeannie need?

a. 35 feet
b. $\sqrt{70}$ feet
c. 50 feet
d. 70 feet
e. 40 feet

21. The following bar graph represents a shoe store's sneaker sales over a four-month period. What would be the correct frequency distribution table for the data illustrated?

- None of the above frequency distribution tables is correct.
22. Given the following truth statement, which other statement below must be true? “If Sierra visits for the weekend, then Stan will be happy.”
   a. If Sierra does not visit for the weekend, then Stan will not be happy.
   b. If Stan is not happy, then Sierra visited for the weekend.
   c. If Sierra can go away for the weekend, then she will be happy.
   d. If Sierra visits for a week, then Stan will be happier.
   e. If Stan is not happy, Sierra did not visit.

23. A pole which casts a 15-foot-long shadow stands near an 8-foot-high stop sign. If the shadow cast by the sign is 3 feet long, how high is the pole?
   a. \( \frac{8}{5} \) feet
   b. 28 feet
   c. 30 feet
   d. 40 feet
   e. 45 feet

24. Inside which of the following two-dimensional shapes does a point exist that is equidistant to all the points on the perimeter of the shape?
   a. equilateral triangle
   b. square
   c. regular pentagon
   d. circle
   e. no shape exists that contains a point that is equidistant to all the points on the perimeter of the shape

25. The main fish tank at the East Point Aquarium is shaped like a rectangular prism. The tank is 10 feet deep, 24 feet wide, and 40 feet long. If the tank contains 4,660 cubic feet of water, how many more cubic feet of water must be added to completely fill the tank?
   a. 9,600 ft\(^3\)
   b. 14,260 ft\(^3\)
   c. 4,660 ft\(^3\)
   d. 5,000 ft\(^3\)
   e. 4,940 ft\(^3\)

26. What is the final answer when 0.08 is multiplied by 475, and then that product is divided by 6?
   a. \( \frac{6}{5} \)
   b. 228
   c. 6.2
   d. \( \frac{190}{3} \)
   e. 38

27. The angles of a four-sided polygon are in the ratio 1:2:2:4. What is the measure, in degrees, of the largest angle?
   a. 40°
   b. 120°
   c. 80°
   d. 160°
   e. 360°

28. The Huntington Cottage Grove Inn charges $1.50 for the first minute of an outgoing call and 60¢ for every additional minute of the call. If Terry makes a call for \( m \) minutes, which of the following equations accurately represents the cost of the call in terms of \( c \) dollars?
   a. \( c = 60(m) + 1.50 \)
   b. \( c = 0.60(m) + 1.50 \)
   c. \( c = 0.60(m - 1) + 1.50 \)
   d. \( m = 0.60(c - 1) + 1.50 \)
   e. \( c = 60(m - 1) + 1.50 \)
29. Twenty slips of paper, numbered 1 through 20, are placed in a bag. If one slip of paper is drawn at random from the bag, what is the probability that a multiple of three is written on the paper?
   a. \(\frac{1}{3}\)
   b. \(\frac{3}{10}\)
   c. \(\frac{3}{20}\)
   d. \(\frac{1}{10}\)
   e. \(\frac{1}{20}\)

30. The following graph shows a solution to a system of two equations. Use the graph to determine which point is a solution to the system of equations.

   ![Graph]

   a. (0,3)
   b. (−4,0)
   c. (−4,−3)
   d. (5,0)
   e. (0,2)

31. The following table shows the scores for four players on a high school golf team over a three-day period.

<table>
<thead>
<tr>
<th>NAME</th>
<th>DAY 1</th>
<th>DAY 2</th>
<th>DAY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randy</td>
<td>98</td>
<td>89</td>
<td>94</td>
</tr>
<tr>
<td>Monica</td>
<td>87</td>
<td>92</td>
<td>90</td>
</tr>
<tr>
<td>Erin</td>
<td>81</td>
<td>81</td>
<td>80</td>
</tr>
<tr>
<td>Maria</td>
<td>75</td>
<td>79</td>
<td>79</td>
</tr>
</tbody>
</table>

   a. The team shot approximately the same overall score each day.
   b. The team scores got lower over the three days.
   c. The team scores got higher over the three days.
   d. The team was inconsistent.
   e. Monica is the best golfer.

32. If Carmen biked a distance of 18,480 feet, how many miles did she travel? (There are 5,280 feet in a mile.)
   a. 3 miles
   b. 3\(\frac{1}{2}\) miles
   c. 3\(\frac{2}{3}\) miles
   d. 3,264 miles
   e. 3\(\frac{1}{2}\) miles

33. What is the estimated product when both 162 and 849 are rounded to the nearest hundred and then multiplied?
   a. 160,000
   b. 180,000
   c. 16,000
   d. 1,000
   e. 128,000
34. Let the operation “#” be defined as follows:
   When \( a \leq 5 \), \( a \# b \) represents \( a^2 - 3b \)
   When \( a > 5 \), \( a \# b \) represents \( 2a + b \).
   Find the value of \((5 \# 6) \# 3\).
   a. 7
   b. 17
   c. 16
   d. 35
   e. 90

35. Loretta bought a DVD player for $77. She bought the DVD player on sale for 30% off the original price. What was the original price of the DVD player?
   a. $47.00
   b. $107.00
   c. $110.00
   d. $100.10
   e. $256.00

36. In isosceles triangle \( \triangle V IC \), \( \angle V \) is the vertex. If \( \angle V \) is three times as large as each of the base angles, then what is the sum of one of the base angles and the vertex?
   a. 142°
   b. 36°
   c. 72°
   d. 108°
   e. 60°

37. The following graph shows the amount of money in a savings account over four years. Use it to answer questions 37 and 38.

   The following graph shows the amount of money in a savings account over four years. Use it to answer questions 37 and 38.

   a. $2,800
   b. $3,000
   c. $3,800
   d. $8,000
   e. $10,000

38. Between which two years was the growth in savings the largest?
   a. between 1998 and 1999
   b. between 1999 and 2000
   c. between 2000 and 2001
   d. between 2001 and 2002
   e. cannot be determined from this graph

38. Assuming that the growth trend shown in the graph will continue, what is a reasonable prediction for the amount of money in the account in 2003?
   a. $2,800
   b. $3,000
   c. $3,800
   d. $8,000
   e. $10,000
39. The following table shows several pairs of $x$ and $y$ values. Which equation represents the relationship shown in the table?

<table>
<thead>
<tr>
<th>$x$</th>
<th>$y$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>6</td>
<td>38</td>
</tr>
<tr>
<td>8</td>
<td>66</td>
</tr>
<tr>
<td>10</td>
<td>102</td>
</tr>
</tbody>
</table>

a. $y = x + 4$
b. $y = x^2 + 2$
c. $y = 2x + 2$
d. $y = 3x$
e. $y = 10x + 2$

40. On an exam, Bart is asked to choose two ways to determine $n\%$ of 40. He is given these four choices:

I. $n \div 100 \times 40$
II. $(n \times 0.01) \times 40$
III. $(n \times 100) + 40$
IV. $(n + 0.01) \times 40$

Which two ways are correct?

a. I and II
b. I and IV
c. II and III
d. II and IV
e. III and IV