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EGTC MATH COMPUTATION PRACTICE TEST

<table>
<thead>
<tr>
<th>472 × 8</th>
<th>63 × 74</th>
<th>82 × 6</th>
<th>47 × 561</th>
<th>652 × 23</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A 595</td>
<td>1B 5815</td>
<td>1C 151</td>
<td>1D 7</td>
<td>1E 85</td>
</tr>
<tr>
<td>2A 859</td>
<td>2B 5815</td>
<td>2C 151</td>
<td>2D 7</td>
<td>2E 85</td>
</tr>
<tr>
<td>3A 595</td>
<td>3B 5815</td>
<td>3C 151</td>
<td>3D 7</td>
<td>3E 85</td>
</tr>
<tr>
<td>4A 595</td>
<td>4B 5815</td>
<td>4C 151</td>
<td>4D 7</td>
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<tr>
<td>5A 595</td>
<td>5B 5815</td>
<td>5C 151</td>
<td>5D 7</td>
<td>5E 85</td>
</tr>
</tbody>
</table>

| 1A 9,876÷6 | 1B 85 | 1C 151 | 1D 7 | 1E 85 |
| 2A 211.71 | 2B 578.263 | 2C 52.8616 | 2D 8.921 | 2E 6582 |
| 3A $8.13$ | 3B 59.88 | 3C 52.8616 | 3D 1.6 | 3E 6582 |
| 4A 79.24 | 4B 9.84 | 4C 9.84 | 4D 6582 | 4E 6582 |
| 5A $11\frac{1}{12}$ | 5B $\frac{4}{9}$ | 5C 8 | 5D $\frac{7}{14}$ | 5E $\frac{2}{3}$ |
| 6A $6\frac{1}{6}$ | 6B $\frac{7}{9}$ | 6C $\frac{3}{4}$ | 6D $\frac{7}{11}$ | 6E $\frac{1}{4}$ |

<table>
<thead>
<tr>
<th>$\frac{1}{2} \times \frac{1}{3}$</th>
<th>$\frac{1}{3} \times \frac{5}{6}$</th>
<th>$\frac{7}{8} \times \frac{2}{9}$</th>
<th>$\frac{1}{3} \div \frac{1}{6}$</th>
<th>$\frac{3}{8} \div 3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>7A 7</td>
<td>7B 3</td>
<td>7C 12</td>
<td>7D 4</td>
<td>7E 17</td>
</tr>
<tr>
<td>8A 7</td>
<td>8B 3</td>
<td>8C 12</td>
<td>8D 4</td>
<td>8E 17</td>
</tr>
<tr>
<td>9A 7</td>
<td>9B 3</td>
<td>9C 12</td>
<td>9D 4</td>
<td>9E 17</td>
</tr>
</tbody>
</table>

1% of 200 = What is 100% of 72? What percent of 12 is 3? 25% of ? = 10 What percent of 400 is 200?

8% of 100 = 30% of ? = 27 What percent of 14 is 7? What is 100% of 29? What percent of 100 is 35?
1. Which symbol goes in the space to make the number sentence true?
   \[63 \_\_\_ < 14\]
   A. \(\times\)  
   B. \(+\)  
   C. \(\div\)  
   D. \(-\)

2. Which fraction is less than \(\frac{2}{3}\) and greater than \(\frac{1}{3}\)?
   A. \(\frac{1}{7}\)  
   B. \(\frac{4}{5}\)  
   C. \(\frac{1}{2}\)  
   D. \(\frac{2}{9}\)

3. How many of the numbers below round to 72.1?
   \[71.29 \quad 72.08 \quad 72.43 \quad 71.91\]
   A. 4  
   B. 1  
   C. 0  
   D. 2

4. Which of these is another way to write 3?\(\]
   A. \(4 \times 4 \times 4\)  
   B. \(3 \times 3 \times 3 \times 3\)  
   C. \(3 + 3 + 3 + 3\)  
   D. \(3 \times 4\)

5. The bill for a meal at a restaurant is $17.00. If you tip 15%, how much will the tip be?
   A. $1.50  
   B. $2.55  
   C. $1.70  
   D. $3.40

6. A window-cleaning crew begins work on a building at 7:15 a.m. on Thursday. They can finish the job in three and a half hours. If they take a 15 minute break, when will they finish?
   A. 11:00 a.m.  
   B. 11:15 a.m.  
   C. 10:30 a.m.  
   D. 11:15 p.m.

7. Stefanie drives from Laramie to Denver. She stops in Ft. Collins for lunch. The driving time between Laramie and Ft. Collins is 3 hours; the driving time between Ft. Collins and Denver is 2 hours. What fraction of total driving time is the trip from Fort Collins to Denver?
   A. \(\frac{2}{7}\)  
   B. \(\frac{3}{7}\)  
   C. \(\frac{2}{5}\)  
   D. \(\frac{3}{5}\)

8. The scale on a map of Colorado is 1 inch equals 200 miles. What is the distance between two towns that are 4.5 inches apart on the map?
   A. 950 miles  
   B. 900 miles  
   C. 800 miles  
   D. 850 miles

9. Which of the following are properties of the number 18?
   A. a multiple of 36 and factor of 9  
   B. a factor of 36 and multiple of 9  
   C. a factor of 36 and 4  
   D. a multiple of 3 and factor of 9

10. If tax rate is 8.25%, which number would you multiply $10.00 by to determine the total tax on a $10.00 purchase?
    A. 8.25  
    B. 0.825  
    C. 0.00825  
    D. 0.0825

11. Which of these numbers has a greater place value in the hundreds than 4392.247?
    A. 125,152  
    B. 4,293.247  
    C. 292  
    D. 9,487.4

12. Which of these numbers should go in the box to make the equation true?
    \[9(2) + 8(2 \times 3) = 3 + (7 \times \_\_\_\_)\]
    A. 9  
    B. 11  
    C. 4  
    D. 10

13. Martha paid $320.00 for four new tires. If the tax is 8.3%, which of these numbers should Martha multiply $320.00 by to find the total tax?
    A. 0.83  
    B. 8.3  
    C. 0.0083  
    D. 0.083

14. Which shapes have two sets of parallel lines?
    A. Rhombus, trapezoid, square  
    B. Square, rectangle, rhombus  
    C. Trapezoid, rhombus, rectangle  
    D. Rectangle, square, trapezoid

15. Which point on the number line is a number greater than 7.5 and less than 9.2?
    A. point P  
    B. point Q  
    C. point R  
    D. point S

16. What is the value of \(k\) in the equation\(\]
    \[14 - 5 > k\]
    A. 19  
    B. < 9  
    C. < 8  
    D. > 8

17. When Sabine makes lemonade she squeezes the lemons and then adds water, sugar, and ice. She needs 3 parts lemon juice to 7 parts water. She has 6 cups of lemon juice. How much water does she need?
    A. 12 cups  
    B. 10 cups  
    C. 14 cups  
    D. 21 cups
18. What is the next number in the sequence?
2, 3, 5, 8, 12...
A. 15
B. 25
C. 17
D. 14

19. Justice works 40 hours per week for $11.00 per hour. She earns $17.00 per hour for every hour of overtime after 40 hours. If she made $474.00 last week, how many hours did she work?
A. 51 hours
B. 57 hours
C. 42 hours
D. 40 hours

20. Which shape is not represented?
A. Rhombus
B. Hexagon
C. Trapezoid
D. Parallelogram

21. Which segments are perpendicular?
A. $\overline{FG}$ and $\overline{EH}$
B. $\overline{BC}$ and $\overline{GH}$
C. $\overline{CH}$ and $\overline{BG}$
D. $\overline{AB}$ and $\overline{BC}$

22. If a line is drawn between points B and D, what will be the area (A) of triangle BDC? ($A = \frac{1}{2}bh$)
A. 10 cm²
B. 24 cm
C. 12 cm²
D. 24 cm²

23. The octagon has eight equal sides. One side measures 4 inches. What is the perimeter of the octagon?
A. 2 feet and 8 inches
B. 2 feet
C. 2 feet and 6 inches
D. 34 inches

24. Blake’s best GPA was in year:
A. 2013
B. 2010
C. 2012
D. 2009

25. By what percentage did Blake’s GPA increase from 2008 to 2011?
A. 50%
B. 5%
C. 20%
D. 0.20%

26. Blake’s GPA was 1.25 points higher in 2012 than it was in:
A. 2011
B. 2010
C. 2013
D. 2008

27. Blake’s lowest yearly GPA was the year he broke his foot dancing the rumba. What year did Blake break his foot?
A. 2011
B. 2010
C. 2012
D. 2008
28. Lydia purchases a mixer for $275.00. If the tax is $24.46, about how much is her down payment?  
A. $27.50  
B. $30.00  
C. $3.00  
D. $2.75  

29. Which of these reflects the information needed to determine Lydia’s total cost over the six-month period?  
A. cost of mixer, tax, down payment  
B. mixer brand, mixer cost, tax  
C. down payment, interest rate, cost of mixer  
D. interest rate, mixer brand, down payment  

30. If Lydia pays off the balance in six months, what is her approximate monthly payment?  
A. $48.82  
B. $54.00  
C. $30.00  
D. $45.00  

31. If Lydia purchases an optional extended warranty for $48.00, what is total cost of Lydia’s mixer, including tax?  
A. $328.00  
B. $300.00  
C. $347.46  
D. $348.00  

32. The number 45,432 rounded to the nearest thousand is:  
A. 50,000  
B. 45,400  
C. 45,000  
D. 45,430  

33. Connie eats tater tots at a rate of 7 per minute. At this rate, how long will it take her to eat 63 tater tots?  
A. 9 minutes  
B. 7 minutes  
C. 63 minutes  
D. 36 minutes  

34. Choose which figure matches the following net (pattern)?  
A. Figure 1  
B. Figure 2  
C. Figure 3  
D. Figure 4  

35. How many faces (sides) does this shape have?  
A. 3  
B. 1  
C. 4  
D. 5  

36. A right angle is:  
A. 45°  
B. 180°  
C. 90°  
D. 360°  

37. Laura can try on six pairs of boots in an hour. If she arrives early at the boot sale at Nordstrom’s and she wants to try on 8 pairs of boots, how long will it take her?  
A. 1 hour  
B. 1 hour and 40 minutes  
C. 40 minutes  
D. 1 hour and 20 minutes  

38. Which of these is a false statement about angle A?  
A. Angle A is not a right angle.  
B. Angle A is greater than 90 degrees.  
C. Angle A is greater than angle C.  
D. Angle A is less than 90 degrees.  

39. Martha is painting her kitchen walls pink. If there are 175 square feet of wall area to be painted, what other information is needed to determine how many cans of paint Martha needs to buy?  
A. The cost of a gallon of paint  
B. the total drying time  
C. the area covered by one can of paint  
D. the time to paint one wall
40. The overlapping figures above form which set of shapes?
A. Rectangle and two triangles
B. Rectangle, triangle and rhombus
C. Two triangles and a parallelogram
D. Pyramid, triangle and rectangle

41. This table shows the number of preschools in Denver, Adams, and Douglas Counties.

<table>
<thead>
<tr>
<th>County</th>
<th>Preschools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denver</td>
<td>785</td>
</tr>
<tr>
<td>Adams</td>
<td>429</td>
</tr>
<tr>
<td>Douglas</td>
<td>518</td>
</tr>
<tr>
<td>Jefferson</td>
<td>589</td>
</tr>
</tbody>
</table>

According to the table, which two counties combined have the highest number of preschools?
A. Adams and Denver Counties
B. Adams and Jefferson Counties
C. Denver and Jefferson Counties
D. Douglas and Adams Counties

42. A large latte at Emily’s café costs $3.19, including tax. The cost of five lattes will be:
A. More than $20
B. More than $15 and less than $16
C. Less than $12
D. More than $12 and less than $15

43. What is the most complete description of ALL seven angles in the shape?
A. One right angle; three 45° angles; one obtuse angle
B. One right angle; three 45° angles
C. Two right angles; three 45° angles; one obtuse angle
D. Two right angles; two 45° angles

44. How many planes of symmetry can bisect the figure above?
A. 4
B. 3
C. 0
D. 1

45. A point is formed by:
A. Segment and a ray
B. Two intersecting perpendicular lines
C. A chord and an angle
D. Two parallel lines

46. Visitors at the Denver Zoo can ride the train for $2.00 each. The table below shows the percentage of visitors by month who rode the train over the summer.

<table>
<thead>
<tr>
<th>MONTH</th>
<th>June</th>
<th>July</th>
<th>August</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCENT</td>
<td>65%</td>
<td>30%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Which graph best shows the percent of visitors riding the train over the summer?
A. Chart 1
B. Chart 1 and Chart 2
C. Chart 3
D. Chart 2

47. A salon owner wants to find out which was the busiest day of the week of March 3. The table below includes the data gathered. The salon is closed Sundays.

<table>
<thead>
<tr>
<th>Day</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.m. customers</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>p.m. customers</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>17</td>
</tr>
</tbody>
</table>

During the week of March 3, what was the salon’s afternoon customer average?
A. 8.5 customers
B. 9 customers
C. 2 to 17 customers
D. 17 customers
**EGTC APPLIED MATH PRACTICE TEST**

The EGTC women’s roller derby team is working hard to become faster skaters. They posted the following times during lap practice last Thursday:

<table>
<thead>
<tr>
<th>PLAYER</th>
<th>TIME IN MINUTES PER 25 LAPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mebrat</td>
<td>12.25</td>
</tr>
<tr>
<td>Roselin</td>
<td>12.80</td>
</tr>
<tr>
<td>Zewdinesh</td>
<td>13.70</td>
</tr>
<tr>
<td>Tuyet</td>
<td>11.63</td>
</tr>
<tr>
<td>Askalu</td>
<td>11.11</td>
</tr>
<tr>
<td>Tsega</td>
<td>10.26</td>
</tr>
<tr>
<td>Lendo</td>
<td>9.23</td>
</tr>
<tr>
<td>Seblmariam</td>
<td>14.89</td>
</tr>
<tr>
<td>Yingmei</td>
<td>14.42</td>
</tr>
<tr>
<td>Virginie</td>
<td>8.89</td>
</tr>
</tbody>
</table>

48. Eight of the team members are studying in the EGTC College of Health Sciences. If you select a player at random, what is the chance the student will be enrolled in the EGTC College of Health Sciences?
   A. 9/10
   B. 1/5
   C. 4/5
   D. 5/8

49. Virginie posted her best time ever on Thursday. Which of the following best describes Virginie’s time?
   A. In the slowest half of all times posted
   B. In the bottom 50% of all times posted
   C. In the top 20% of times posted
   D. The average of all times posted

50. The bakers in EGTC’s Culinary Arts Program determine the number of loaves of bread baked by the cups of flour used. Based on the table above, how many cups of flour will be needed to bake 30 loaves?
   A. 90 cups
   B. 10 cups
   C. 15 cups
   D. 300 cups

<table>
<thead>
<tr>
<th>Flour (Cups)</th>
<th>Loaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>?</td>
<td>30</td>
</tr>
</tbody>
</table>

51. Which of the following is true about a triangle?
   1. All angles add up to 150°
   2. It must have three sides
   3. All triangles have three angles
   A. 1, 2, and 3
   B. 1 and 2
   C. 1 and 3
   D. 2 and 3

52. An EGTC instructor would like to find out how many quizzes students prefer during a six week class. Which of these sample groups would give the most information?
   A. first year community college students
   B. students in the instructor’s current class
   C. last year’s students
   D. people selected at random

53. Name the shapes in order:
   A. Rhombus, square, trapezoid, slantoid
   B. Rectangle, rhombus, trapezoid, parallelogram
   C. Rectangle, trapezoid, square, rhombus
   D. Parallelogram, square, rhombus, trapezoid

54. Which of these numbers is the same as 78,225.6894 rounded to the nearest thousandth?
   A. 78,225.689
   B. 78,225.69
   C. 78,000
   D. 7800

55. Emily’s Café charges $1.25 for a small coffee. The café pays 15¢ per cup and 6¢ per lid. The cost of the coffee is 24¢. Which equation represents the café’s profit on small coffees sold if C equals the number of cups sold?
   A. 24¢ + 15¢ + 6¢ = $1.25
   B. (0.24 + 0.15 + 0.06) = 1.25
   C. 1.25C
   D. 1.25C - 0.15C = 0.06C - 0.24C

56. The total cost (T) of a buffet dinner for a family of six (two adults and four children) can be represented by the equation:
   \[ T = 15A + 8C + 2D \]
   A = number of adults
   C = number of children
   D = number of drinks
   If the family purchases six meals, and four drinks, what will the total be?
   A. $74.00
   B. $98.00
   C. $25.00
   D. $70.00

57. The following equation describes how many pencils (P) the EGTC Testing Center needs each day based upon the number of students (S) testing:
   \[ P = 2S + 12 \]
   If 49 students test on Monday, how many pencils are needed?
   A. 63
   B. 110
   C. 59
   D. 53
58. What is the perimeter of the shaded area?
A. 72 units
B. 36 units
C. 40 units
D. 28 units

59. Paul wants to purchase a complete set of books by Marcel Proust. The set costs $180.00. He has saved \( \frac{1}{2} \) of the cost. How much does he still need to save?
A. $45.00
B. $90.00
C. $66.00
D. $60.00

60. On Tuesday, the sun rises at 5:45 a.m. and sets at 7:15 p.m. How much time passes between sunrise and sunset?
A. 11 hours and 30 minutes
B. 12 hours 45 minutes
C. 13 hours 30 minutes
D. 11 hours 45 minutes

61. Which of the following are parts of a circle?
1. Diameter
2. Radius
3. Circumference
4. Center
5. Arc
A. All
B. 2, 3, and 4
C. None
D. 2 and 5

62. About how many fewer park visitors were there in 2014 in the state of Montana than in the state of Colorado?
A. 330,000
B. 4,060,506
C. 30,300
D. 400,000

63. What is the average number of national parks in these states?
A. 3
B. 1/2
C. 12
D. 2

64. How many national parks visitors were there in Oregon on 2014?
A. 535,500
B. 535,508
C. 4,060,506
D. 6,267,142

65. If twice as many people visit the national park in New Mexico in 2015 as in 2014, about how many people will visit?
A. 1,000,000
B. 200,000
C. 800,000
D. 80,000

66. To transform shape 1 into shape 2, what must be done?
A. Reflect it across line 1 and rotate it 90 degrees on the vertical axis
B. Rotate it across line 1 and rotate it 90 degrees on the horizontal axis
C. Reflect it across line 1 and rotate it 180 degrees on the vertical axis
D. Reflect it across line 1 and rotate it 180 degrees on the horizontal axis
Parking Garages Built in Downtown Denver
2009 - 2013

67. If construction growth continues at about the same pace, the number of garages built in 2014 will be:
A. less than 2011
B. greater than 2012 and less than 2013
C. greater than 2013
D. about the same

68. How many more garages were built in 2013 than in 2011?
A. 40
B. 15
C. 5
D. 10

69. Line A represents the:
A. secant
B. radius
C. bisector
D. diameter

70. Line A represents the:
A. arc
B. radius
C. diameter
D. chord

71. If each cake costs $8.00 to make, how much will the total cost be for cake?
A. $96.00
B. $40.00
C. $48.00
D. $8.00

72. The rental cost for each table is $25, plus a 20% delivery fee. How much will the delivery fee be for all the tables rented?
A. $5.00
B. $50.00
C. $30.00
D. $20.00