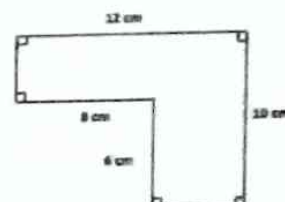


Name: \_\_\_\_\_

School: \_\_\_\_\_

**Solve each item on scratch paper, when necessary. Then, write your final answer on the blank.**

- \_\_\_\_\_ 1. Calculate  $(81 \div 15) \times (14 \div 27) \times (5 + 7)$
- \_\_\_\_\_ 2. Calculate  $16 \times 4 \times 8 \times 125 \div 1000$ .
- \_\_\_\_\_ 3. What is the sum of 0.48, 10.2, 0.03 and 8?
- \_\_\_\_\_ 4. What is the quotient when 0.1 is divided by 0.02?
- \_\_\_\_\_ 5. What is the product of  $0.2 \times 0.2 \times 0.2$ ?
- \_\_\_\_\_ 6. What is the value of 1000% of 2?
- \_\_\_\_\_ 7. What is the answer to  $\frac{10}{0.1} - 10$ ?
- \_\_\_\_\_ 8. Which is the closest approximation to  $0.435 \div 0.0821$ ?  
a) 0.02      (b) 0.2      (c) 0.5      (d) 5      (e) 50
- \_\_\_\_\_ 9. If  $m = 1$  and  $n = 5$ , which expression has the greatest value?  
a)  $m + n$       (b)  $\frac{m}{n}$       (c)  $n - m$       (d)  $m \times n$       (e)  $m - n$
- \_\_\_\_\_ 10. In 8 years, Claire will be three times her current age. In how many years will she be 20 years old?
- \_\_\_\_\_ 11. If today is Thursday, what day of the week will it be 17 days from now?
- \_\_\_\_\_ 12. What is the perimeter of the figure shown on the right?
- \_\_\_\_\_ 13. In rectangle ABCD,  $AD = 12$  cm and the area is  $60$   $\text{cm}^2$ . What is the length of AB, in cm?
- \_\_\_\_\_ 14. How many digits can we replace @ with, so that the four-digit number  $20@0$  would be smaller than 2018?
- \_\_\_\_\_ 15. A light flashes every 6 minutes and a bell rings every 8 minutes. If the light flashes as the bell is ringing, how many minutes must elapse before this re-occurs?
- \_\_\_\_\_ 16. What is the difference between the LCM and GCF of 5, 10, and 35?
- \_\_\_\_\_ 17. How many positive divisors has 60, excluding 1 and 60?
- \_\_\_\_\_ 18. What is the value of  $4 + \frac{2}{10} + \frac{4}{1000}$ ?
- \_\_\_\_\_ 19. What should be added to  $\frac{1}{2}$  to give  $\frac{5}{8}$ ?
- \_\_\_\_\_ 20. Instead of multiplying a number by  $\frac{1}{4}$ , I multiplied it by  $\frac{1}{8}$  and got 2.  
What number was I originally supposed to get as a result?
- \_\_\_\_\_ 21. What is the value of  $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{2}{3} + \frac{2}{4} + \frac{3}{4}$ ?
- \_\_\_\_\_ 22. What is the product of  $1\frac{1}{3} \times 1\frac{1}{2}$ ?
- \_\_\_\_\_ 23. What is the value of  $\frac{3}{4} + \frac{5}{2} \times \frac{3}{4}$ ?
- \_\_\_\_\_ 24. The rectangle shown on the right has length 11 and width 7.  
What is the area of the shaded part?
- \_\_\_\_\_ 25. Given that  $\frac{1}{3} = 0.\bar{3}$  and  $\frac{1}{2} = 0.5$ , what is the value of  $\frac{1}{2} + \frac{1}{3}$ ?
- \_\_\_\_\_ 26. What is the sum of all odd numbers greater than 1 and smaller than 21?
- \_\_\_\_\_ 27. How many of the integers from 1 to 101 inclusive are divisible by either 5 or 3?
- \_\_\_\_\_ 28. If  $a = 2$  and  $b = 3$ , then  $\frac{1}{a} + \frac{1}{b}$  equals?
- \_\_\_\_\_ 29. On a test consisting of 30 questions, Susan had 50% more right answers



than she had wrong answers. Each answer was either right or wrong. How many questions did she answer correctly?

30. Find the sum of the integers that we can place in the squares so that the inequalities shown would be true.  $\frac{1}{4} < \frac{\square}{12} \leq \frac{1}{3} < \frac{\square}{12} < \frac{1}{2}$ .

6	8
A	24

31. The rectangle shown has been divided into four rectangles with perimeters of 6 cm, 8 cm, 24 cm and A cm. Calculate A.

32. We have a rectangle with side lengths of 6 cm and 4 cm and a square with a perimeter that is equal to the perimeter of the rectangle. By how many square centimeters is the area of a rectangle smaller than the area of the square?

33. There were a total of 120 coins in two boxes. Ten coins were then shifted from the first box to the second. As a result, the number of coins in the second box was twice as much as the number of coins in the first one. What was the number of coins in the first box before the shift?

34. It is known that the sums of any two of four numbers are 3, 5, 6, 8, 9 and 11. What is the sum of those four numbers?

35. The three-digit number 2A4 is added to 329 and gives 5B3. If 5B3 is divisible by 3, what is the largest possible value of A?

36. In a class of 30 students, 40% wear glasses. Three of those wearing glasses are left-handed. Of those wearing glasses, what percent are left-handed?

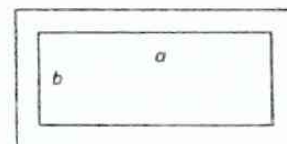
37. The price of an article is reduced by 20%. In order to restore the reduced price to the original value, by how much must the reduced price be increased?

38. A team's record is 20 wins and 25 losses. To qualify for the playoffs a team must win 60% of its games played. How many wins of the remaining 15 games are necessary for the team to qualify?

39. In each of three successive years, the cost of living increase by 10%. What is the percentage increase over the three years?

40. A man has a rectangular patio in his garden. He decides to enlarge it by increasing both length and width by 10%. What is the percentage increase in area?

41. The sides of a cube are doubled in length. By how many percent is the increase in the volume?



42. The selling price of a coat, which normally sells for \$55.00, was reduced by 20% during the spring sale. Since the coat still didn't sell the sale price was reduced by 10%. What was the total reduction from the original selling price?

43. The length of a rectangle is increased by 15% and the width is decreased by 20%. Find the percentage change in the area of the rectangle.

44. A restaurant offers 4 main course, 3 desserts, and 3 drinks. If Dinah wants to order a main course, a dessert, and a drink, how many ways can she order?

45. A cone has a radius of 6 cm and a slant height of 10 cm. Find its volume.

46. It took a train 50 seconds to pass a tunnel that was 1000 m long. It took the same train, travelling at the same speed, 75 seconds to pass a bridge that was 1625 m long. How long was the train?

47. What whole number k will make the sentence  $15 - k > 12$ ?

48. What is the least common multiple 12, 24, 30, and 60?

49. If 10 is subtracted from 3 times a number, the result is 38. What is the number?

50. What two numbers have a sum of 86 and one of them is 10 more than the other?

**2019 Metrobank-MTAP-Dep Ed Math Challenge**  
**Grade 6 – Answer Key**

1. 2
2. 64
3. 18.71
4. 5
5. 0.008
6. 20
7. 90
8. d
9. a
10. 16 years
11. Sunday
12. 44 cm
13. 5 cm
14. 2
15. 24
16. 65
17. 10
18. 4.204
19.  $\frac{1}{8}$
20. 4
21. 3
22. 2
23.  $\frac{21}{8}$
24. 38.5 square units
25.  $0.\overline{83}$
26. 99
27. 47
28.  $\frac{5}{6}$
29. 18
30. 9
31. 22 cm
32. 1 sq cm
33. 50
34. 14
35. 4
36.  $\frac{3}{12}$  or 25%
37. 25%
38. It is impossible for the team to qualify for the playoffs.
39. 33.1%
40. 21% increase
41. 700%.
42. \$15.40
43. The new area is 8% less than the original area.
44. 36
45.  $96\pi$  cm<sup>3</sup>
46. **250 m**
47. 0, 1, 2
48. 120
49. 16
50. 38 & 48