Students Entering **Grade 8**   Summer Math 2019   Name: _____

Directions: Circle the problems you complete and write the solutions in the space provided.

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1. Multiply $5\frac{5}{7} \times 8\frac{3}{7}$
2. Find the area and circumference of a circle with a radius of 2 cm to the nearest tenth.
3. A table seats 2 people on each side and one on each end. How many people can sit at 7 tables placed end to end? How many people can sit at n tables placed end to end?
4. David needs to learn 24 new Science vocabulary words. So far he has learned 18 words. What percent of the words does he have left to learn?
5. A cylinder and a cone have the same radius and height. What is the difference between the volume of the cylinder and cone?
3. Praveen had 2 quarters, 1 dime, and 3 pennies. Saveen had 2 nickels. Praveen gave 3 coins to Saveen giving him 1 cent more than Praveen. What 3 coins did Praveen give Saveen?
4. Dee has 42 stickers and Chris has 24 stickers. How many stickers should Dee give to Chris so that they will have the same number of stickers?
5. Solve the following equation for the value of n. $6n - 11 = 19$
6. Val has $195. She purchased new shoes for $54. She would like to buy jeans that cost $38 each. How many pair of jeans can Val purchase?
7. If Michael can travel 260 miles in 5 hours, how far can he travel in 2 hours?
8. Find three consecutive numbers whose sum is 96.
9. Four times a number increased by 12 gives you 28. What is the number?
10. You paid 25% of the $38 restaurant bill. How much of the bill is still unpaid?
11. What is the decimal equivalent of $\frac{3}{8}$?
12. You purchased 3 online games costing $12.99 each and paid 6% sales tax. If you paid with a $50 gift card, how much is left on your card?
13. What is the volume of a volleyball with a diameter of 8 inches?
14. Suppose 54 out of 120 people enjoy watching baseball and of the people who watch baseball 3 out of 5 play baseball. If you ask 500 people, how many would you expect to play baseball?
15. Simplify the express for $y = 8$. $((y^3 - 21^2) \times 2) + (1^2 + 2^2 + 3^2)^2$
16. A movie theater is having a special. Each ticket is $7.50 and a popcorn and soda is $4.50. How much would 7 people pay if 3 got a ticket and popcorn and 4 got a ticket, popcorn, and soda?
17. Write a real world problem that could be solved using the equation $7x + 6 = 55$.
18. Solve the equation. Show all work. $8\frac{1}{3}y + \frac{4}{5} = \frac{9}{10}$
19. Solve the inequality and graph the solution on a number line. $4(x - 2) - 6 \geq 6$
20. Angles A and B are supplementary angles. What is the measure of Angle A if Angle B measures 78.347°.

21. The formula for the sum on the interior angles of a polygon is $(n - 2) \times 180$. What is the measure of one of the angles in a regular 12-sided polygon?

22. The mean of six numbers is 6.8. Find two missing numbers that would make this true.

| 5.4 | ? | 3.2 | ? | 8.9 | 12.4 |

23. There are 10 squares shaded in the first row on a 10 by 10 grid. The second row has 9 shaded squares, the third has 8, and so on. What fraction of the whole square is shaded?

24. Solve the equation. Show all work. $(y - 3.2) \div 3^3 = 2.4$

25. The first two terms of a sequence are $\frac{2}{3}$ and $\frac{4}{5}$. Each subsequent term is the mean of the two previous terms. What is the fifth term in the sequence?

26. The number 2005 is the sum of a sequence of five consecutive positive integers. What is the smallest of the five integers?

27. Paulo is 32 years old. In ten years Paulo's age will be the sum of the ages of this three sons. What do his sons' ages add up to now?

28. The sum of five consecutive integers is equal to the sum of the next three consecutive integers. What is the largest of these eight integers?

29. Rick has five cubes. Each cube is 2 cm taller than the previous one. The largest cube is the same height as a tower built with the two smallest cubes. How high would a tower of all five cubes be?

30. Solve and graph the following inequality. $\frac{2}{5}y + \frac{1}{3} \leq \frac{5}{6}$

31. Julie and her sons Ken and Leo have the same birthday. Today, Julie is 32, Kaen is 4, and Leo is 1. How old will Julie be when her age is the sum of the ages of Ken and Leo?

32. When Clem stands on a table and Dimetri stands on the floor, Clem is 80 cm taller than Dimetri. When Dimetri stands on the table and Clem stands on the floor, Dimetri is 1 m taller than Clem. How tall is the table?

33. The area of a rectangle is 225 square units. Its length is 16 units more than its width. What is the width of the rectangle?

34. Benji chooses an integer, multiplies it by 4 then subtracts 30. He then multiplies his answer by 2 and finally subtracts 10. His answer is a two-digit number. What is the largest integer he could have chosen to start with?

35. The square of a positive number is twice as big as the cube of that number. What is the number?

36. The sum of three numbers is 100. The difference between the larger two is 12, the difference between the smaller two is 2. What are the numbers?

37. The sum of 9 consecutive whole numbers is 2007. What is the largest of these numbers?

38. Three whole numbers, when added two at a time, give sums of 39, 48, and 51. What is the largest of the three numbers?

39. Find four integers whose sum is 400 such that the first integer is equal to twice the second integer, three times the third integer, and four times the fourth integer.

40. In a sequence of positive integers, every term after the first two terms is the sum of the two previous terms in the sequence. If the fifth term is 2004, what is the maximum possible value of the first term?