1. \( 2022 + 4817 + 5182 + 1296 + 8703 = ? \)
2. Simplify. \( \sqrt{125 \cdot 45} \)
3. \( 118 \cdot 112 = ? \)
4. \( 1113 = \ldots = 9 \)
5. Solve for \( x \): \( 4^{2x+3} = 16^{3x-1} \)
6. Solve for \( x \).
\[ \log_5 5 + \log_2 x = \log_2 (x + 20) \]
7. Express as a fraction in simplest terms: \( (0.07)(0.3) \)
8. The measure of one exterior angle of a Hexagonagon.
9. What is the total surface area of a hemisphere whose diameter is 20 meters? Write in terms of \( \pi \).
10. \( 6^2 + (2)(3) + 4 = ? \)
11. \( \sqrt[3]{300763} = \)
12. \( (\sqrt[3]{5} - \sqrt[3]{8})(\sqrt[3]{25} + \sqrt[3]{40} + \sqrt[3]{64}) = \)
13. \( (10 - 4\sqrt{5})(10 + 4\sqrt{5}) = \)
14. The remainder when \( 723645092615 \) is divided by 9.
15. A giant watermelon weighed 100 pounds and was 99% water. While standing in the sun, some water evaporated, so that the watermelon was only 98% water. How much did the watermelon then weigh?
16. How are these arranged?
\[ 8, 5, 4, 9, 1, 7, 6, 3, 2, 0 \]
17. Snowman is located at \( (7, 11) \) while Lu is at \( (14, -13) \). What is the shortest distance between the two people?
18. Is the number below divisible by 2, 3, 5, 11? Write all that work.
\[ 6428951625910 \]
19. \( 12^3 + 18^3 = ? \)
20. Captain Rovere has a chest full of coins. When he arranges the coins in groups of two, there is one single coin left over. When he arranges the coins in groups of three, five, or six, there is also just one single coin left over. But when he arranges the coins in groups of seven, there are no coins left over. What is the fewest amount of coins he could have?
21. 70% of 700 is 20% of what?
22. When three numbers are added two at a time, their sums are 45, 56, and 77. What is the sum of these three numbers?
23. Two cones (Cone 1 & Cone 2) each have height 5 cm. Cone 1 has volume \( \frac{80\pi}{3} \) cm\(^3\) while Cone 2 has volume \( 15\pi \) cm\(^3\). What is the ratio of the radius of Cone 1 to the radius of Cone 2?
24. Todd is the Great Shrinking Man. Today he is 6 feet tall, but his height decreases by \( \frac{2}{3} \) each day. How many inches will Todd’s height be 6 days later?
25. \( \sum_{k=0}^{2} 2 \cdot 0.5^k = \)
26. \( \left[ -5, 2 \right]^{-1} \cdot \left[ 10, -4 \right] = ? \)
27. At Childs High School, all students take at least one of Math, Science, and History. 200 students take Math, 200 students take Science, 200 students take History, 40 students take Math and Science, 60 students take Science and History, 50 students take History and Math, and 10 students take all 3 subjects. How many students attend Childs?
28. The legs of a right triangle measure 22 and 120 inches. How many inches is the hypotenuse?
29. Classify the conic section:
\[ 5x^2 + 5y^2 + 25x \cdot 30x + 60 = 0 \]
30. \( 10! = ? \)
31. \( (\log_5 25) \cdot (\log_3 5)^4 \cdot (\log_6 25) \cdot (\log_5 6)^4 = \)
32. Nancy is 54 years old and her mother is 80. How many years ago was the mother three times Nancy’s age?
33. Number of feet in 5 miles.
34. What is the 100th triangular number?
35. \( \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{12} + \frac{1}{24} = \) as an improper fraction in lowest form.
36. \( \frac{3}{5} \cdot \frac{5}{18} = \)
37. \( 10^5 P_5 = \)
38. \( 80^{0.7} - 78^{0.7} = \)
39. The day before yesterday I was 25. Next year I will be 28. This is true only one day in a year. What day is my birthday?
40. \( 7814 \cdot 2314 \cdot 1886)^0 = \)