

- _____ 1) $2022 + 4817 + 5182 + 1296 + 8703 = ?$
- _____ 2) Simplify. $\sqrt{125 \cdot 45}$
- _____ 3) $118 \cdot 112 = ?$
- _____ 4) $111_3 = ____9$
- _____ 5) Solve for x : $4^{2x+3} = 16^{3x-1}$
- _____ 6) Solve for x .
 $\log_2 5 + \log_2 x = \log_2(x + 20)$
- _____ 7) Express as a fraction in simplest terms: $(0.\overline{07})(0.\overline{3})$
- _____ 8) The measure of one exterior angle of a Hexacontagon.
- _____ 9) What is the total surface area of a hemisphere whose diameter is 20 meters? Write in terms of π .
- _____ 10) $6^2 \div (2)(3) + 4 = ?$
- _____ 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 $\frac{80\pi}{3}$ cm³ while Cone 2 has volume 15π cm³. 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) $\sum_{k=0}^{\infty} 2 \cdot 0.5^k =$
- _____ 26) $\begin{bmatrix} -5 & 2 \\ 10 & -4 \end{bmatrix}^{-1} = ?$
- _____ 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:
 $5x^2 + 5y^2 + 25x - 30y + 60 = 0$
- _____ 30) $10! = ?$
- _____ 31)
 $(\log_4 25) \cdot (\log_2 5)^{-1} \cdot (\log_4 625) \cdot (\log_2 5)^{-1} =$
- _____ 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 1000th triangular number?
- _____ 35) $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{6} + \frac{1}{12} + \frac{1}{24} =$ as an improper fraction in lowest form.
- _____ 36) $3\frac{3}{5} \cdot 3\frac{1}{18} =$
- _____ 37) ${}_{10}P_5 =$
- _____ 38) $80^2 - 78^2 =$
- _____ 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) $(7814 \cdot 2314 \cdot 1886)^0 =$