

- 4035 1. Evaluate: $2018^2 - 2017^2$
- 2 2. Find remainder of 2018 divided by 18
- 22198 3. Evaluate: $2018 \cdot 11$
- 17 4. Find larger solution for x:
 $x^2 - 20x + 51 = 0$
- 1717 5. Find the sum of the arithmetic series:
1,4,7,...,100
- 1-i 6. Evaluate: $i^3 + i^6 + i^9 + i^{12} + i^{15} + i^{18}$
- 15 7. What is the acute angle (in degrees) made between the hour and minute hands at time 6:30 on a standard 12 hour clock?
- 10 8. $f(x) = 3x-2$. $g(x) = x^2 - 3x$.
Find $f(g(2)) + g(f(1))$
- 9 9. Find the units digit of $2^{2018} + 0^{2018} + 1^{2018} + 8^{2018}$
- $8 + 8\sqrt{2}$ 10. Find the area of a regular octagon with side length 2
- 151 11. Assume that 5 used up widgets can be combined to make 1 new working widget, and each new widget can be used once. How many widget uses can you have if you start with 121 new widgets?
- 210 12. Find the area of a right triangle with base 20 and hypotenuse 29.
- 210 13. Given 10 evenly spaced points on a circle labeled A to J, how many quadrilaterals can be drawn by connecting 4 of those points?
- 94 14. Find the surface area of a rectangular prism with edge lengths 3,4,5
- 9 15. Evaluate: $4^{\log_8(27)}$
- 5 16. Evaluate: $\sqrt{20 + \sqrt{20 + \sqrt{20 + \dots}}}$
- 2 17. 18 points are evenly spaced on a circle. How many distinct 18-pointed stars are there using these points as vertices?
- 453600 18. How many distinct permutations exist for the letters MENTALMATH?
- 28 19. Find the sum of all distinct, positive integral factors of 12
- $\frac{224}{111}$ 20. Write $2.\overline{018}$ as a reduced and simplified fraction
- 6084 21. Evaluate: $2018 - 8102$
- 8126 22. Evaluate: $\sum_{n=2}^5 (n^2 + 2018)$
- $\frac{1}{1296}$ 23. What is the probability of a yahtzee (rolling 5 dice and getting all the same number)? Write as a reduced and simplified fraction.
- 13 24. How many distinct ways can you make \$0.25 using pennies, nickels, dimes, and quarters?
- 45 25. The ratio of sphere A's to sphere B's volume is 8:27. The surface area of sphere A is 20. Find the surface area of sphere B.
- 1009²⁰¹⁸ 26. Which is bigger: 2018! or 1009²⁰¹⁸
- 3 27. Billy, Bob, and Joe can each independently paint a barn in 3, 4, and 12 hours, respectively. How many hours would it take them to paint 2 barns together?
- 30 28. A rectangular prism has faces with areas 6,10,15. Find its volume.
- 610 29. What is the 15th fibonacci number? (assume series starts 1,1,2,3,5,...)
- 6 30. Find the number of digits in the expansion: $3^4 * 4^3 * 5^2 * 6^1$
- $-\frac{4}{3}$ 31. Solve for x: $27^x = 1/81$
- 1093 32. Evaluate: $1 + 3 + 9 + 27 + 81 + 243 + 729$
- 13 33. How many integers satisfy $|1-3x| < 20$
- 2000122 34. Convert to Base 3: 2018_9
- $\frac{173}{105}$ 35. Evaluate: $\frac{1}{3} + \frac{3}{5} + \frac{5}{7}$
- 9:38 36. A standard twelve hour clock shows 12:00. What time will it show 2018 minutes from now?
- 7 37. Find the 4th largest integral factor of 42
- (52,68) 38. Find the point $\frac{3}{4}$ of the way from (16,17) to (64,85)
- 8 39. $x+y = 5$. $x^3+y^3 = 5$. Find xy
- 0.38 40. If the independent probabilities of each of Larry, Moe, and Curly slipping are 0.4, 0.5, and 0.6, what is the probability (as a decimal) that exactly one of them slips?