

1. ----- Find the positive difference between the roots of $4x^2 - 7x - 15 = 0$.
2. ----- Round $\frac{22}{7}$ to 4 decimal places.
3. ----- Evaluate $\sum_{n=18}^{31} n$.
4. ----- What is the smallest square number greater than 1 that is also a cube?
5. ----- In how many zeroes does $8^{13}25^{19}$ end?
6. ----- What is the remainder when $x^3 - 13x^2 + 25x - 37$ is divided by $x - 2$?
7. ----- Find the radius of a circle whose circumference is $\frac{23\sqrt{e}}{3\pi}$.
8. ----- Evaluate $\sum_{n=-6}^8 n^3$.
9. ----- In a geometric sequence, the first term is 900 and the third term is 625. Find the sum of the two possible values of the second term.
10. ----- How many permutations of "CALCULUS" exist?
11. ----- $\log_3 (9^{\log_3 \sqrt{3}} 81) = ?$
12. ----- A sphere's surface area equals 6 times its volume, ignoring units. What is its diameter?
13. ----- Two dice are thrown. One is fair and the other is weighted such that rolling a 1 is impossible, but all other outcomes are equally likely to occur. What is the probability that the sum of the rolls will be a prime number?
14. ----- Find the surface area of a cone with radius 4 and height 7.5.
15. ----- A book is numbered from page 2 to page 116. How many 1's will be used in this numbering?
16. ----- Ian is selling balloons and yo-yo's. 8 balloons and 5 yo-yo's cost \$4.90. 1 balloon and 7 yo-yo's cost \$3.80. How many balloons can be bought with \$5.00?
17. ----- Andrew has 60 hats and 15 shirts. The probability of a randomly selected hat-shirt combo matching is 43%. How many hat-shirt combos do NOT match?
18. ----- Find the maximum value of $-2x^2 + 8x + 80$.
19. ----- Simplify: $\frac{\sqrt{2} - 1}{\sqrt{3} - 2}$
20. ----- How many positive factors does 20120 have?
21. ----- Write the inverse of the contrapositive of the converse of the inverse of the statement "If A, then B."
22. ----- What is the area of a triangle with vertices at (1, 2), (-3, 4) and (6, 5)?
23. ----- Find the sum of the y-intercepts of $(x - 5)^2 + 4(y - 4)^2 = 36$.
24. ----- A clock's minute hand has a length of 4 feet, while its hour hand has a length of 3 feet. In a span of 4.5 hours, how much farther does the tip of the minute hand travel than the tip of the hour hand?
25. ----- Evaluate $7 + 6 \div 3 - 2 \times (1 + 4) + 9 - 8 \times 5$.