



10. A Kakuro puzzle asks the solver to enter a digit from 1 to 9 inclusive in each blank so. that the sum of the number in each row or column matches the clue and so that no digit is repeated in the sum. For example, the sum for a clue 6 with two blanks could only be 6 = 1 + 5 or 6 = 2 + 4.

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Which number(s) can be a clue in the position marked x?

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13. Bill starts walking along a 6-mile trail from the beginning (the trailhead). Some time Y. later his brother Phil rides his bike along the trail in the same direction starting at the trailhead. Phil can ride three times as fast as Bill can walk. When he passes Bill, Phil (on the bike) continues to the end of the trail and Bill turns around and heads back towards the trailhead. When Phil gets to the end of the trail, he turns his bike around and goes back along the trail arriving at the trailhead at the same time Bill does. How far from the trailhead did Phil pass Bill? e. 2 mi. Y. c. 5 mi. d. 4 mi. tute ## ## b. 3 mi. a. 1 mi. maximue # # * * 14. The parabola $ax^2 - 6x + c$ has only one root. Determine the product ac. Y. c. 9 b. 2 d. 2 a. -6 15. Suppose that x + y = 8 and $x^2 + y^2 = 80$. Find the product xy. a. 16 b. -8 c. 8 d. -1d. 16 * 3 % N. e. -32 a. 16 16. The graphs of $f(x) = -4x^2 + 6x + 7$ and $g(x) = \frac{1}{2}x^2 + \frac{3}{2}x - 2$ meet in two points. Find the slope of the line containing these two points. Y. $\frac{3}{2}$ mistitute ## # b. $\frac{1}{3}$ c. $\frac{2}{3}$ a. 3 e. 2 Y. 城长场 17. A standard coin is tossed four times. What is the probability that heads comes up exactly twice? b. 7 16 c. 3/8 d. $\frac{5}{16}$ Institute # # 12 1% $\mathbf{a}.$ 1000111111 第 林 後 代 multille 新林 等於 8 18. A drawer contains 3 blue socks and 4 black socks. It is too dark to tell which is which. If you choose two socks at random, the probability that you have a matching pair is e. <u>18</u>% a, $\frac{24}{49}$ matitute # 20. 37 Ro $\mathbf{C} = \frac{2}{7} \mathbf{C} + \frac{2}{7} \mathbf{C}$

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