

Puzzle of the Week

Combining Digits – Five 2's

Here are some ways to get 0 and 1 using five 2's.

$$0 = (22 - 22) \times 2$$

$$0 = (2/2 - 2/2) \times 2$$

$$1 = 2 - (2/2 \times 2/2)$$

$$1 = (2/2 + 2/2) / 2$$

THE CHALLENGE: How many numbers can you get using five 2's using addition, subtraction, multiplication, division and creating double-digit numbers?

2 2 2 2 2

EXPLORATION: Play with other groups of identical numbers. Are some more interesting than others?

Puzzle of the Week

Combining Digits – Five 2's – Notes

THE CHALLENGE: Here are some solutions from 0 to 16. Of course, there are many more. Have fun comparing different people's solutions!

$$\begin{aligned}0 &= (2 - 2) / (2 \times 2 \times 2) \\1 &= (2 / 2 + 2 / 2) / 2 \\2 &= 2 + (2 - 2) \times (2 + 2) \\3 &= 2 + (2/2 \times 2/2) \\4 &= (2 + 2 + 2 + 2) / 2 \\5 &= 2 + (2 + 2 + 2) / 2 \\6 &= (2 \times (2 + 2 + 2)) / 2 \\7 &= 2 + 2 + 2 + 2/2 \\8 &= 2 \times 2 \times 2 \times 2/2 \\9 &= 2 \times 2 \times 2 + 2/2 \\10 &= 22/2 - 2/2 \\11 &= 22/2 \times 2/2 \\12 &= 22/2 + 2/2 \\13 &= (22 + 2 + 2) / 2 \\14 &= 22 - (2 \times 2 \times 2) \\15 &= 22/2 + 2 + 2 \\16 &= 22 - 2 - 2 - 2\end{aligned}$$