EQUATIONS WORKSHEET

O OR X WILD (JS ONLY)

PRINCIPLE

0 or x wild variation: The 0 or x cube may represent any numeral or operation on the cubes, but it must represent the same numeral or operation everywhere it occurs (Goal and Solution). Each Solution-writer must specify in writing the interpretation of the 0 or x cube if it stands for anything other than itself in his Solution. The player selecting this variation specifies whether 0 or x (but not both) is wild for the shake.

For examples of 0 wild, see worksheets 7H, 7I, and 7J.

EXAMPLES

1. A Goal of 6x may be interpreted as 60, 61, 62, ..., 69. There is no way the x may be interpreted as an operation sign.
2. The Goal 4x3 may be 4 x 3, 4 + 3, 4 – 3, 4 ÷ 3, or 4√3. The x may be a digit only if the exponent variation is chosen, and the 3 is the selected color.
3. Suppose the Goal is 7x2x3. Since both x’s must represent the same symbol, this Goal may be 7+2+3, 7–2–3, 7÷2÷3, 7x2x3, 7*2*3, or 7√2√3. x may not be a digit.

X WILD IN COMBINATION WITH OTHER VARIATIONS

1. Sideways: There is no way to tell if an x cube in the Goal is sideways. The Goal x÷3 may be (1/2)+3 (or 2+3), (1/3)+3, ..., (1/9)+3. However, in x7 the x may not be sideways.
2. Upside-down: Comments similar to those for sideways cube apply here. x+3 could be +1+3, +2+3, ..., +9+3.
3. Powers of the base: x, as 1, may be any power of the base.
4. Multiple operations: x may be used multiple times in a Solution only if it represents an operation, not if it represents a digit.
5. Exponent: x’s are on the blue and green cubes. If blue or green exponent is called, an x may be used as an exponent without *.
6. Average: If x is used as +, it means average, not addition.
7. AB+: The Goal may be of the form ABx, with x representing +.
8. Base m: If x is used as a digit, it may be only 0, 1, 2, ..., m–1. So in base eleven or twelve, x may represent 0, 1, 2, ..., 9, * (ten), or in base twelve √ (eleven).

EXERCISES

With x wild, write all values of each Goal. Use ... to indicate patterns.

1. x3 __________________________
2. 8x2 __________________________
3. xx __________________________
4. 1x6x2 __________________________
5. x+5 __________________________
6. 4*x __________________________
7. (base 8) 7÷x ____________________
8. (AB+) 36xx5 ____________________
9. (red exp.) 4x2 (red 2) ______________
10. (average) 25x40 __________________
11. (pob) x+3 ______________________