EQUATIONS WORKSHEET

7L

NAME _____

SMALLEST PRIME – I (E ONLY)

PRINCIPLE

The smallest prime variation says:

x*A* means "the smallest prime bigger than *A*," where *A* is a rational number less than or equal to 200.

DEFINITION A *prime number* is a whole number bigger than one that has exactly two factors: itself and one.

The first few primes are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, ...

NOTICE THAT 1 IS NOT A PRIME NUMBER.

EXAMPLES

1. x7 = 11, the smallest prime bigger than 7.
2. x(9 ÷ 2) = 5, the smallest prime bigger than 4.5.
3. x(0 – 3) = 2, the smallest prime bigger than -3.
4. 2xx5 = 2 x (x5) = 2 x 7 = 14. ← **x may still mean multiply also.**
5. xx5 = x(x5) = x7 = 11 ("the smallest prime bigger than the smallest prime bigger than 5")
6. x(3 * 5) is not allowed since 3 * 5 = 243, which is bigger than 200. If used as the Goal, this expression should be challenged Never. Any Solution using this expression is incorrect.
7. x√65 is illegal since √65 is not a rational number (fraction).
8. x√64 is legal since √64 is a rational number (8). So x√64 = x8 = 11.
9. Since 2 is the smallest prime, x in front of a negative number or any number less than 2 always produces 2, as in these examples: x0, x(3 ÷ 3), x(1 ÷ 2), x(1 – 3), x(2 – 5), and so on.

EXERCISES

Assume smallest prime is in effect for all these exercises.

Evaluate each expression. If an expression has no legal value, write None.

1.	x2	_____	**2.**	x(2 * 2)	_____	**3.**	(x5) + 3	_____
4.	x(5 x 3)	_____	**5.**	x(1 ÷ 4)	_____	**6.**	x(1 – 7)	_____
7.	x(2√9)	_____	**8.**	(x8) ÷ 2	_____	**9.**	(x3) * 2	_____
10.	(x1)√9	_____	**11.**	2 * x4	_____	**12.**	22 ÷ x9	_____
13.	xx3	_____	**14.**	7xx2	_____	**15.**	xxxx10	_____
16.	6xxx5	_____	**17.**	x8 ÷ x2	_____	**18.**	x√23	_____

Write all possible values of each ***Goal****. If a Goal has no legal value, write* None.

19.	x12*2	_____	**20.**	x2x9	_____	**21.**	xx7x3	_____
22.	x0–3	_____	**23.**	x7xx9	_____	**24.**	xx5–x6	_____
25.	x2÷x3	_____	**26.**	x√63+1	_____	**27.**	x2√27	_____