```
$ pl

<...snip...>

?- consult('crypto.pro').
%  combosets.pro compiled 0.01 sec, 7,160 bytes
% crypto.pro compiled 0.01 sec, 10,084 bytes

Yes
?- crypto(4,8,-4,Soln).

Soln = ex(4, -, 8) ;

No
?- crypto(12,24,2,Soln).

Soln = ex(24, /, 12) ;

No
?- crypto(1,2,3,6,Soln).

Soln = ex(ex(1, +, 2), +, 3) ;

Soln = ex(3, +, ex(1, +, 2)) ;

Soln = ex(3, *, ex(1, *, 2)) ;

Soln = ex(3, *, ex(2, /, 1)) ;

Soln = ex(1, +, ex(2, +, 3)) ;

Soln = ex(1, *, ex(2, *, 3)) ;

Soln = ex(ex(2, *, 3), /, 1) ;

Soln = ex(2, +, ex(1, +, 3)) ;

Soln = ex(2, *, ex(1, *, 3)) ;

Soln = ex(2, *, ex(3, /, 1)) ;

No
?- crypto(13,3,16,8,Soln),write(Soln),nl,fail.

No
?- crypto(4,5,6,7,Soln),write(Soln),nl,fail.
ex(6, -, ex(4, -, 5))
ex(6, +, ex(5, -, 4))
ex(ex(5, +, 6), -, 4)
ex(5, -, ex(4, -, 6))
ex(5, +, ex(6, -, 4))

No
?- crypto(4,5,6,7,8,Soln),write(Soln),nl,fail.
ex(ex(4, +, 5), +, ex(6, -, 7))
ex(ex(4, +, 5), -, ex(7, -, 6))
ex(6, -, ex(7, -, ex(4, +, 5)))
ex(6, +, ex(ex(4, +, 5), -, 7))
ex(ex(6, +, ex(4, +, 5)), -, 7)
ex(ex(4, +, 6), +, ex(5, -, 7))
ex(ex(4, +, 6), -, ex(7, -, 5))
ex(5, -, ex(7, -, ex(4, +, 6)))
ex(5, +, ex(ex(4, +, 6), -, 7))
ex(ex(5, +, ex(4, +, 6)), -, 7)
ex(ex(4, -, 7), +, ex(5, +, 6))
ex(5, +, ex(6, +, ex(4, -, 7)))
ex(6, +, ex(5, +, ex(4, -, 7)))
ex(ex(5, +, 6), -, ex(7, -, 4))
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ex(5, +, ex(6, -, ex(7, -, 4)))
ex(5, -, ex(ex(7, -, 4), -, 6))
ex(6, +, ex(5, -, ex(7, -, 4)))
ex(6, -, ex(ex(7, -, 4), -, 5))
ex(ex(5, +, 6), +, ex(4, -, 7))
ex(ex(5, +, 6), -, ex(7, -, 4))
ex(4, -, ex(7, -, ex(5, +, 6)))
ex(ex(ex(5, +, 6), -, 7), +, 4)
ex(4, +, ex(ex(5, +, 6), -, 7))
ex(ex(4, +, ex(5, +, 6)), -, 7)
ex(4, *, ex(ex(5, +, 7), /, 6))
ex(ex(4, *, ex(5, +, 7)), /, 6)
ex(ex(5, -, 7), +, ex(4, +, 6))
ex(ex(6, +, ex(5, -, 7)), +, 4)
ex(4, +, ex(6, +, ex(5, -, 7)))
ex(6, +, ex(4, +, ex(5, -, 7)))
ex(ex(4, +, 6), -, ex(7, -, 5))
ex(ex(6, *, ex(7, -, 5)), -, 4)
ex(ex(6, -, ex(7, -, 5)), +, 4)
ex(4, +, ex(6, -, ex(7, -, 5)))
ex(4, -, ex(ex(7, -, 5), -, 6))
ex(6, +, ex(4, -, ex(7, -, 5)))
ex(6, -, ex(ex(7, -, 5), -, 4))
ex(6, +, ex(4, /, ex(7, -, 5)))
ex(ex(6, -, 7), +, ex(4, +, 5))
ex(ex(5, +, ex(6, -, 7)), +, 4)
ex(4, +, ex(5, +, ex(6, -, 7)))
ex(5, +, ex(4, +, ex(6, -, 7)))
ex(ex(4, +, 5), -, ex(7, -, 6))
ex(ex(5, -, ex(7, -, 6)), +, 4)
ex(4, +, ex(5, -, ex(7, -, 6)))
ex(4, -, ex(ex(7, -, 6), -, 5))
ex(5, +, ex(4, -, ex(7, -, 6)))
ex(5, -, ex(ex(7, -, 6), -, 4))

No
?- crypto(1,2,3,4,10,Soln),write(Soln),nl,fail.
ex(ex(1, +, 2), +, ex(3, +, 4))
ex(3, +, ex(ex(1, +, 2), +, 4))
ex(ex(1, +, 2), +, ex(4, +, 3))
ex(3, +, ex(4, +, ex(1, +, 2)))
ex(4, +, ex(ex(1, +, 2), +, 3))
ex(4, +, ex(3, +, ex(1, +, 2)))
ex(ex(3, *, 4), -, ex(1, *, 2))
ex(4, +, ex(3, *, ex(1, *, 2)))
ex(ex(3, *, 4), -, ex(2, /, 1))
ex(4, +, ex(3, *, ex(2, /, 1)))
ex(ex(1, +, 3), +, ex(2, +, 4))
ex(4, +, ex(2, +, ex(1, +, 3)))
ex(2, +, ex(ex(1, +, 3), +, 4))
ex(2, +, ex(4, +, ex(1, +, 3)))
ex(ex(1, +, 3), +, ex(2, +, 4))
ex(4, +, ex(2, +, ex(1, +, 3)))
ex(ex(4, *, ex(1, *, 3)), -, 2)
ex(4, +, ex(2, *, ex(1, *, 3)))
ex(ex(2, *, 4), -, ex(1, -, 3))
ex(2, -, ex(4, *, ex(1, -, 3)))
ex(ex(3, -, 1), +, ex(2, *, 4))
ex(2, +, ex(ex(3, -, 1), *, 4))
ex(ex(3, -, 1), +, ex(4, *, 2))
ex(2, +, ex(4, *, ex(3, -, 1)))
ex(ex(4, *, ex(3, /, 1)), -, 2)
ex(4, +, ex(2, *, ex(3, /, 1)))
ex(ex(2, +, 3), +, ex(1, +, 4))
ex(ex(1, +, 4), +, ex(2, +, 3))
ex(2, +, ex(3, +, ex(1, +, 4)))
ex(3, +, ex(2, +, ex(1, +, 4)))
ex(ex(1, *, 4), +, ex(2, *, 3))
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```
ex(ex(3, *, ex(1, *, 4)), -, 2)
ex(ex(4, /, 1), +, ex(2, *, 3))
ex(ex(3, *, ex(4, /, 1)), -, 2)
ex(ex(1, +, 4), +, ex(2, +, 3))
ex(ex(2, +, 3), +, ex(1, +, 4))
ex(1, +, ex(4, +, ex(2, +, 3)))
ex(4, +, ex(1, +, ex(2, +, 3)))
ex(ex(2, *, 3), +, ex(1, *, 4))
ex(ex(2, *, 3), +, ex(4, /, 1))
ex(1, *, ex(4, +, ex(2, *, 3)))
ex(ex(4, +, ex(2, *, 3)), /, 1)
ex(4, +, ex(1, *, ex(2, *, 3)))
ex(4, +, ex(ex(2, *, 3), /, 1))
ex(ex(2, +, 4), +, ex(1, +, 3))
ex(1, +, ex(3, +, ex(2, +, 4)))
ex(3, +, ex(1, +, ex(2, +, 4)))
ex(ex(2, *, 4), -, ex(1, -, 3))
ex(ex(2, *, 4), +, ex(3, -, 1))
ex(ex(3, +, ex(2, *, 4)), -, 1)
ex(3, -, ex(1, -, ex(2, *, 4)))
ex(3, +, ex(ex(2, *, 4), -, 1))
ex(ex(3, +, 4), +, ex(1, +, 2))
ex(1, +, ex(2, +, ex(3, +, 4)))
ex(2, +, ex(1, +, ex(3, +, 4)))
ex(ex(3, *, 4), -, ex(1, *, 2))
ex(ex(3, *, 4), -, ex(2, /, 1))
ex(1, *, ex(ex(3, *, 4), -, 2))
ex(ex(ex(3, *, 4), -, 2), /, 1)
ex(ex(1, *, ex(3, *, 4)), -, 2)
ex(ex(ex(3, *, 4), /, 1), -, 2)

No
?- halt.
```