Babylonian Arithmetic Exercises

1. Add the following sexagesimal (base-60) numbers. Remember to line them up at the sexagesimal point (;).
    a. $(2, 30; 30)_{60} + (10, 30; 40)_{60}$
    b. $(20, 0; 30)_{60} + (40, 30; 50, 40)_{60}$
    c. $(50, 40; 30)_{60} + (10, 30; 40)_{60}$
    d. $(10, 20; 30, 40)_{60} + (10, 30; 40)_{60}$

2. Subtract the following sexagesimal (base-60) numbers. Remember to line them up at the sexagesimal point (;).
    a. $(20, 30; 40)_{60} - (10, 20; 30)_{60}$
    b. $(10, 30; 30)_{60} - (5, 30; 40)_{60}$
    c. $(50, 0; 20, 30)_{60} - (10, 30; 40)_{60}$
    d. $(40, 30; 30)_{60} - (30, 30; 40)_{60}$

3. Multiply the following sexagesimal (base-60) numbers in a manner similar to what we do today.
    a. $(2, 30; 30)_{60} \times (10; 40)_{60}$
    b. $(10, 20; 30)_{60} \times (30; 20, 10)_{60}$
    c. $(14, 3; 45)_{60} \times (4, 16)_{60}$
    d. $(50, 40, 30; 20)_{60} \times (10; 10)_{60}$

4. Divide the following sexagesimal (base-60) numbers. Remember to multiply by the reciprocal of the divisor.
    a. $(10, 30; 30)_{60} \div 5$
    b. $(50, 40; 30, 20)_{60} \div 10$
    c. $(40, 30; 20)_{60} \div 8$
    d. $(45, 45; 45)_{60} \div 9$