Remainder puzzles — 3 conditions

Name: _____ Date: _____

Sieve for it. Show the numbers you checked.

1 Some marbles are shared out in different sized bags. In bags of 5, 2 are left over. In bags of 7, 6 are left over. In bags of 9, 7 are left over.

What is the smallest number of marbles there could be?

Why

2 A number leaves remainders when it is divided. Divided by 7 it leaves 2. Divided by 9 it leaves 8.

What is the smallest number it could be?

Why

Remainder puzzles — 3 conditions

Name: _____ Date: _____

Sieve for it. Show the numbers you checked.

3 A number leaves remainders when it is divided. Divided by 3 it leaves 2. Divided by 7 it leaves 3. Divided by 8 it leaves 2.

What is the smallest number it could be?

Why

4 Some marbles are shared out in different sized bags. In bags of 4, 3 are left over. In bags of 7, 6 are left over.

What is the smallest number of marbles there could be?

Why

Remainder puzzles · 3 conditions — Answer key

If they are stuck

- Write out the numbers that fit the FIRST condition. What do they go up in?

1. Start with the numbers that leave 2 when divided by 5: 2, 7, 12, 17, 22, 27, and so on. They go up in 5s. Check those against "leaves 6 when divided by 7" — the survivors go up in 35s; check those against "leaves 7 when divided by 9". The first that passes every check is 97 marbles.

2. Start with the numbers that leave 2 when divided by 7: 2, 9, 16, 23, 30, 37, and so on. They go up in 7s. Check those against "leaves 8 when divided by 9". The first that passes every check is 44.

3. Start with the numbers that leave 2 when divided by 3: 2, 5, 8, 11, 14, 17, and so on. They go up in 3s. Check those against "leaves 3 when divided by 7" — the survivors go up in 21s; check those against "leaves 2 when divided by 8". The first that passes every check is 122.

4. Start with the numbers that leave 3 when divided by 4: 3, 7, 11, 15, 19, 23, and so on. They go up in 4s. Check those against "leaves 6 when divided by 7". The first that passes every check is 27 marbles.