

Homework 9 Solutions

Problems

1. **Describe the numbers which are divisible by both 4 and 10.**

The multiples of 4 are 4, 8, 12, 16, 20, 24... and the first one of these to be divisible by 10 as well is 20. Hence 20 is the least common multiple of 4 and 10. So numbers which are both divisible by 4 and 10 are just the numbers that are divisible by 20.

2. **Determine the least common multiple of 12 and 15.**

The multiples of 12 are 12, 24, 36, 48, 60 and when we hit 60 we have reached a number that's also divisible by 15. Hence the least common multiple of 12 and 15 is 60.

3. **Describe the numbers which are divisible by 3, 5, and 6 (that is, the numbers which are divisible by all three of these).**

The multiples of 3 are 3, 6, 9, 12, 15, 18, 21, 24, 27, 30... and 30 is the first such to be also divisible by 5 and 6. So the numbers that are divisible by 3, 5, and 6 are just the multiples of 30.