Check Up

1. Collect 12 quarters and 8 dimes.

   Stack your coins according to the following rules.

   - Quarters have to stay with quarters, dimes with dimes.
   - All coins must be used.
   - Each stack must have the same number of coins.

2. Repeat the coin activity with a larger number of coins, 128 quarters and 96 dimes. What is the largest number of coins you can get in each stack if you follow the same rules stated above? How many stacks of each type of coin would there be? Try to figure this out without actually using coins.

☑ Compare your answers.

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   Stack your coins according to the following rules.

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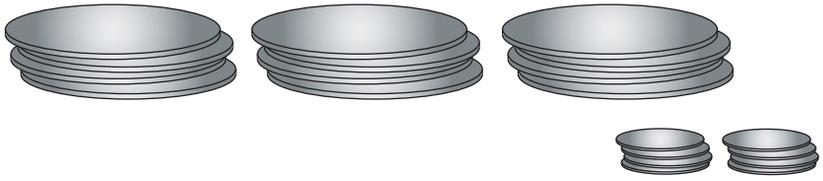
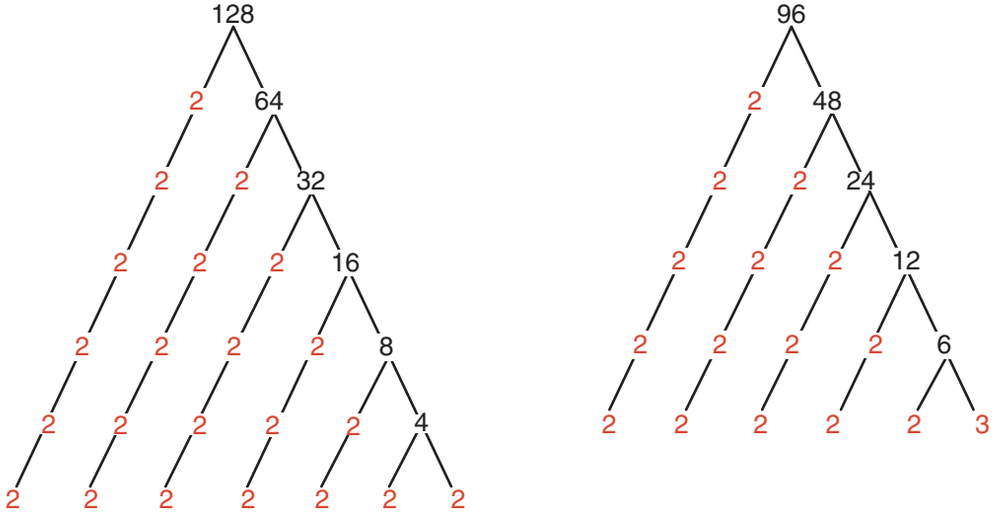


   Each stack has four coins. The quarters are in three stacks of four coins and the dimes are in two stacks of four coins.

   Note: 4 is the greatest common factor of 12 and 8.

2. Repeat the coin activity with a larger number of coins, 128 quarters and 96 dimes. What is the largest number of coins you can get in each stack if you follow the same rules stated above? How many stacks of each type of coin would there be? Try to figure this out without actually using coins.

   Without using coins, you could find the GCF of 128 and 96 by prime factorization.



$128 = \boxed{2} \times \boxed{2} \times \boxed{2} \times \boxed{2} \times \boxed{2} \times 2 \times 2$

$96 = \boxed{2} \times \boxed{2} \times \boxed{2} \times \boxed{2} \times \boxed{2} \times 3$

   So the GCF of 128 and 96 $= 2 \times 2 \times 2 \times 2 \times 2 = 32$.

   The GCF indicates that each stack must have 32 coins. Since $128 \div 32 = 4$, there would be four stacks of 32 quarters; similarly, since $96 \div 32 = 3$, then there would be three stacks of 32 dimes.