Factors and Greatest Common Factor

Ms. Dumal is making bookmarks for a school fundraiser. She has one piece of ribbon that is 72 inches long and another that is 64 inches long. She wants to cut both ribbons into smaller pieces that are all the same length for the bookmarks. What are the possible whole number lengths of each piece of ribbon?

1. What are you asked to find? ____________________________________________

2. How can you use factors to find the answer? ______________________________

3. List the factors of 72 and 64. Circle the common factors.

   ____________________________________________________________

4. What are the possible whole number lengths of each piece of ribbon? ________

5. Laura makes modeling dough with 18 tablespoons salt and 27 tablespoons flour. She has scoops that hold from 1 through 10 tablespoons. If she wants to use the same scoop for the salt and the flour, what is the largest scoop she can use?

6. Aaron makes model airplanes using balsa wood. He has 14- and 35-inch strips of wood to cut into smaller pieces for wings. He wants to cut the strips into pieces of the same length. What is the longest whole number length he can cut?

7. Challenge The GCF of the number of red and blue buttons is 5. There are 75 red and blue buttons altogether. There are 35 more red buttons than blue buttons. How many of each color button is there?

8. Challenge The GCF of the number of swans and ducks at the pond is 9. There are 63 swans and ducks in all. There are 27 more ducks than swans. How many of each bird is at the pond?
Name ____________________________  Lesson 11.3

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Ms. Dumal is making bookmarks for a school fundraiser. She has one piece of ribbon that is 72 inches long and another that is 64 inches long. She wants to cut both ribbons into smaller pieces that are all the same length for the bookmarks. What are the possible whole number lengths of each piece of ribbon?

1. What are you asked to find? the possible whole number lengths that each ribbon can be cut into

2. How can you use factors to find the answer? List the factors for each number and then find the common factors.

3. List the factors of 72 and 64. Circle the common factors.
   72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72
   64: 1, 2, 4, 8, 16, 32, 64

4. What are the possible whole number lengths of each piece of ribbon? 1, 2, 4, or 8 in.

5. Laura makes modeling dough with 18 tablespoons salt and 27 tablespoons flour. She has scoops that hold from 1 through 10 tablespoons. If she wants to use the same scoop for the salt and the flour, what is the largest scoop she can use? 9 T

6. Aaron makes model airplanes using balsa wood. He has 14- and 35-inch strips of wood to cut into smaller pieces for wings. He wants to cut the strips into pieces of the same length. What is the longest whole number length he can cut? 7 in.

7. Challenge The GCF of the number of red and blue buttons is 5. There are 75 red and blue buttons altogether. There are 35 more red buttons than blue buttons. How many of each color button is there? 55 red buttons, 20 blue buttons

8. Challenge The GCF of the number of swans and ducks at the pond is 9. There are 63 swans and ducks in all. There are 27 more ducks than swans. How many of each bird is at the pond? 45 ducks and 18 swans