NC.6.NS.4 Understand and use prime factorization and the relationships between factors to:
• Find the unique prime factorization for a whole number.
• Find the greatest common factor of two whole numbers less than or equal to 100.
• Use the greatest common factor and the distributive property to rewrite the sum of two whole numbers, each less than or equal to 100.
• Find the least common multiple of two whole numbers less than or equal to 12 to add and subtract fractions with unlike denominators.

Multiple Choice	Open-Ended	Gridded Response
Rayneir has drawing lessons every 3 days and soccer practice every 4 days. On which day will he have both drawing lessons and soccer practice? a. Day 24 b. Day 7 c. Day 1 d. Day 12	Using the chart below, identify the prime factors of 24 and 16, and the prime factors that they share. Prime of 24 is 3 Prime of 16 is 2 They share 2 x 2 x 2	Find the least common multiple of 12 and 4. 12
Find the LCM between 18 and 6. Decide which answer correctly gives the LCM and correctly describes what that number represents. a. The LCM is 3, because it is the smallest factor that they both share. b. The LCM is 6, because it is the lowest number using both 18 and 6. c. The LCM is 18, because it is the lowest multiple that they both have in common. d. The LCM is 108, because you have to multiply the numbers together to get LCM.	Using the chart below, identify the prime factors of 72 and 18, and the prime factors that they share. Prime of 72- 2 x 2 x 2 Prime of 18- None They share 3 x 3 x 2	Find the least common multiple of 48 and 144. 144
Scout is conducting a research project on traffic patterns in her town. She realizes that at 6:00 AM each morning, the traffic lights reset and function on a pattern. The traffic light on Main St. turns red every 7 minutes. The traffic light on Elm St. turns red every 15 minutes. At what time will both lights be red at the same time? a. 7:45 AM b. 6:30 AM c. 6:22 AM d. 7:05 AM	Olivia wears her favorite red shirt every 3 days and jeans every 2 days. On which day will Olivia wear her favorite red shirt and jeans? If this pattern continues, on which day will Olivia have worn this outfit for the fourth time? Day 6 Day 24	Find the least common multiple of 12 and 16. 48

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Andrew is running a YouTube Channel about his favorite video games. He decides that every 5 days he will post a video game review, and every 18 days he will post a tutorial video. He wants to plan ahead and figure out when he will have to post both a review and a tutorial video on the same day. On which day will this occur? a. Day 40 b. Day 23 c. Day 90 d. Day 108	Collin's Best Bakery is decorating cupcakes for the local elementary school. Collin is baking 32 cupcakes for the students. He is putting sprinkles on every 4 cupcakes and chocolate syrup on every 6 cupcakes. How many cupcakes will get both sprinkles AND chocolate syrup? Two Cupcakes	Find the least common multiple of 4 and 6. 12
Bob is a plumber trying to fix a leak in a bathroom. He notices that the leak in the sink drips every 6 seconds, and the leak in the tub drips every 10 seconds. How much time will pass until both the sink and the tub leak at the same time? a. 1 minute b. 16 seconds c. 40 seconds d. 30 seconds	Samara is a pitcher on her school's softball team. Every 4th batter, she throws a fastball as the first pitch. Every 7th batter, she throws a curveball as the first pitch. Will there ever be a batter that will mess up this pattern? If yes, which batter will it be? Explain how you know. It will mess up at the 28th person that she pitches to.	Find the least common multiple of 22 and 8. 88
Find the GCF between 36 and 9. Decide which answer correctly gives the GCF and correctly describes what that number represents. a. The GCF is 324, because to find the GCF you have to multiply all of the prime factors together. b. The GCF is 9 because it is the largest prime factor that can divide evenly into 9 and 36. c. The GCF is 18, because it is the lowest multiple that they both have in common. d. The GCF is 3 because it is the smallest prime number that divides into both 36 and 9.	Mason is throwing a family BBQ. He buys 42 hot dogs and 28 sodas. How many people can he invite to his tailgate if he wants each person to get an equal amount of hot dogs and sodas? How many hot dogs would each person get? How many sodas would each person get? He can invite 14 people. They each get 3 hot dogs and 2 sodas.	Find the greatest common factor of 32 and 24. 8

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Which of the following expression uses the distributive property and GCF to find the solution to 16 + 24?
 	
  a. 4(4) + 4(6)
  b. 2(8) + 2(12)
  c. 1(16) + 1(24)
  d. 4(4) + 8(3)
	Sophia is making snack bags for a field trip. She has 12 cookies, 48 candy bars, and 20 water bottles. She wants to group her snacks so that each bag has the same number of each treat. What is the greatest number of bags she can make? How many of each treat will be in each group?
	
	She can make 4 bags. Each bag would have 3 cookies, 12 pieces of candy and 5 waters.
		Find the greatest common factor of 75 and 45.
		
		15

Which of the following expression uses the distributive property and GCF to find the solution to 32 + 12?
 	
  a. 2(16+6)
  b. 2(22)
  c. 4(10+1)
  d. 4(8+3)
	Your 6th grade class is a having a field day after the EOGs. There are 24 boys and 20 girls in your class. Your job is to divide the class into the greatest amount of teams possible, splitting up the boys and girls equally. How many teams are made if each person is on a team? How many boys will be on each team? How many girls will be on each team?
	
	There will be 4 teams. Each team will have 6 boys and 5 girls.
		Find the greatest common factor of 24, 42, and 60.
		
		6

What is the greatest common factor between 8 and 24?
 	
  a. 8
  b. 16
  c. 24
  d. 192
	Macon is collecting trading cards. He has 18 baseball cards, 30 football cards, and 48 hockey cards. He wants to group his trading cards so that each group has the same number of each type of card. What is the greatest number of groups he can make? How many of each card will be in each group?
	
	He can make 6 groups. Each group will have 3 baseball cards, 5 football cards and 8 hockey cards.
		Find the greatest common factor of 24 and 18.
		
		6

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Which of the following expression uses the distributive property and GCF to find the solution to 48 + 20? a. 2(24)+4(5) b. 2(24+10) c. 6(8)+4(5) d. 4(12+5)	Zoe is making origami for her friends. She makes 16 blue swans and 36 orange frogs. How many people can she give oragami to if she wants each person to get an equal amount of blue swans and orange frogs? How many swans would each person get? How many frogs would each person get? She can give oragami to 4 friends. Each would get 4 swans and 9 frogs.	Find the greatest common factor of 108 and 30. 6