School786
AN ONLINE SCHOOL

Name: Due Date: Teacher: Parent Sign:

1. What is the greatest common factor (GCF) of 12 and 18?

2. Find the GCF of 14 and 35.

3. Find the GCF of 27 and 36.

4. What is the GCF of 8 and 13?

5. Find the GCF of 48 and 72.

6. What is the GCF of 100 and 80?

7. Find the GCF of 45 and 75.

8. What is the GCF of 56 and 98?

9. Find the GCF of 21 and 28.

10. What is the GCF of 16 and 64?

11. Find the GCF of 9, 12, and 15.

12. Find the GCF of 14, 21, and 35.

13. Find the GCF of 18, 30, and 42.

14. Find the GCF of 24, 36, and 60.

15. What is the GCF of 5 and 17?

16. Find the GCF of 81 and 54.

17. What is the GCF of 48 and 18?

18. Find the GCF of 2, 3, and 7.

19. Find the GCF of 72 and 108.

20. What is the GCF of 39 and 52?

Word problems

21. You have 36 cookies and 60 cupcakes. What is the greatest number of identical gift bags you can make so each bag has the same number of cookies and cupcakes and you use all the treats? How many of each treat are in each bag?

22. You have 48 pencils and 30 erasers and want to make identical supply packs using all items. What is the greatest number of packs you can make? How many pencils and erasers go in each pack?

23. A cafeteria has 72 chairs and 90 tables. You want to arrange them into identical groups so each group has the same number of chairs and tables and nothing is left over. What is the greatest number of groups?

24. Three classes have 18, 30, and 42 students. The teacher wants to arrange students in each class in identical rows with the same number of students in each row and no leftovers. What is the maximum number of students that can be in each row?

25. Two ribbons measure 28 cm and 42 cm. They will be cut into equal-length pieces with no leftover. What is the longest possible length of each piece?

26. A farmer has fields of 40, 100, and 60 square meters and wants to divide each field into smaller equal plots with no leftover area. What is the largest possible size (in sq. meters) of each small plot?

27. Two ropes measure 45 m and 30 m. They will be cut into equal lengths (longest possible) with no leftover. How long should each piece be?

28. You have 54 crackers and 30 juice boxes and want to make identical snack baskets using all items. What is the greatest number of baskets and how many crackers and juice boxes in each basket?

29. There are 84 blue marbles and 126 red marbles. You want to make the greatest possible number of identical piles so each pile has the same number of blue and red marbles and all marbles are used. How many piles and how many marbles of each color per pile?

30. The cafeteria has 45 apples, 60 bananas, and 75 oranges. They want to make identical fruit baskets using all fruit with each basket having the same counts of each fruit. What is the maximum number of baskets and how many of each fruit per basket?

31. A craft kit needs bead groups and you have sets of 16, 24, and 40 beads. What is the largest equal group size you can make from each set with no leftover?

32. A closet has 14 shirts and 35 pairs of pants. You want to make identical groups so each group has the same number of shirts and pants and none are left over. What is the greatest number of groups and how many shirts and pants in each?

33. A teacher has 95 pencils and 125 erasers and wants to make identical student kits using all items. How many kits can be made and what will be in each kit?

34. There are 84 jars and 42 lids to make sets so each set has the same number of jars and lids and nothing is leftover. What is the greatest number of sets and what is in each set?

35. You have 63 red balloons and 21 blue balloons. What is the greatest number of identical bouquets you can make so each bouquet has the same number of red and blue balloons and all balloons are used? How many of each color per bouquet?

Factoring using the distributive property (factor out the GCF)

36. Factor using the distributive property: $12x + 18$.

37. Factor: $9x + 6$.

38. Factor: $14x + 35$.

39. Factor: $24a + 16b$.

40. Factor: $18x + 27y$.

41. Factor: $20m + 15n + 25$.

42. Factor: $7x + 21$.

43. Factor: $100p - 40$.

44. Factor: $45x - 30y$.

45. Factor: $8x + 12$.

46. Factor: $6x + 9 + 15x$.

Greatest common factor explained / short-answer thinking

47. Describe two steps you could use to find the GCF of 36 and 48.

48. Why is the GCF of two different prime numbers always 1?

49. Find the GCF of $6x^2$ and 15x (include the variable part).

50. Factor: $15x^2 + 10x$ by pulling out the greatest common factor.