8-1 **Exercises**

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GUIDED PRACTICE

1. Vocabulary Define the term *greatest common factor* in your own words.

SEE EXAMPLE 1
p. 524

Write the prime factorization of each number.

2. 20   **3.** 36   **4.** 27   **5.** 54

6. 96   **7.** 7   **8.** 100   **9.** 75

SEE EXAMPLE 2
p. 525

Find the GCF of each pair of numbers.

10. 12 and 60   **11.** 14 and 49   **12.** 55 and 121

SEE EXAMPLE 3
p. 525

Find the GCF of each pair of monomials.

13. $6x^2$ and $5x^2$ **14.** $15y^3$ and $-20y$ **15.** $13q^4$ and $2p^2$

SEE EXAMPLE 4
p. 526

16. Samantha is making beaded necklaces using 54 glass beads and 18 clay beads. She wants each necklace to have the same number of beads, but each necklace will have only one type of bead. If she puts the greatest possible number of beads on each necklace, how many necklaces can she make?

PRACTICE AND PROBLEM SOLVING

Independent Practice

For Exercises	See Example
17–24	1
25–27	2
28–30	3
31	4

Extra Practice

Skills Practice p. S18

Application Practice p. S35

Write the prime factorization of each number.

17. 18   **18.** 64   **19.** 12   **20.** 150

21. 17   **22.** 226   **23.** 49   **24.** 63

Find the GCF of each pair of numbers.

25. 36 and 63   **26.** 14 and 15   **27.** 30 and 40

Find the GCF of each pair of monomials.

28. $8a^2$ and 11   **29.** $9s$ and $63s^3$ **30.** $-64n^4$ and $24n^2$

31. José is making fruit-filled tart shells for a party. He has 72 raspberries and 108 blueberries. The tarts will each have the same number of berries. Raspberries and blueberries will not be in the same tart. If he puts the greatest possible number of fruits in each tart, how many tarts can he make?

Find the GCF of each pair of products.

32. $3 \cdot 5 \cdot t$ and $2 \cdot 2 \cdot 5 \cdot t \cdot t$ **33.** $-1 \cdot 2 \cdot 2 \cdot x \cdot x$ and $2 \cdot 2 \cdot 7 \cdot x \cdot x \cdot x$

34. $2 \cdot 2 \cdot 2 \cdot 11 \cdot x \cdot x \cdot x$ and $3 \cdot 11$ **35.** $2 \cdot 5 \cdot n \cdot n \cdot n$ and $-1 \cdot 2 \cdot 3 \cdot n$

36. Write About It The number 2 is even and is prime. Explain why all other prime numbers are odd numbers.