

LESSON
8-1**Practice B****Factors and Greatest Common Factors**

Write the prime factorization of each number.

1. 18

2. 120

3. 56

4. 390

5. 144

6. 153

Find the GCF of each pair of numbers.

7. 16 and 20

8. 9 and 36

9. 15 and 28

10. 35 and 42

11. 33 and 66

12. 100 and 120

13. 78 and 30

14. 84 and 42

Find the GCF of each pair of monomials.

15. $15x^4$ and $35x^2$

16. $12p^2$ and $30q^5$

17. $-6t^3$ and $9t$

18. $27y^3z$ and $45x^2y$

19. $12ab$ and 12

20. $-8d^8$ and $14d^4$

21. $-m^8n^4$ and $3m^6n$

22. $10gh^2$ and $5h$

23. Kirstin is decorating her bedroom wall with photographs. She has 36 photographs of family and 28 photographs of friends. She wants to arrange the photographs in rows so that each row has the same number of photographs, and photographs of family and photographs of friends do not appear in the same row.
- a. How many rows will there be if Kirstin puts the greatest possible number of photographs in each row?

- b. How many photographs will be in each row? _____

Problem Solving

- $x^2 - 16$; \$128
- $0.75x^2 - x - 65$; 2575 square feet
- $x^2 - 144 \text{ in}^2$ 4. D
- G 6. A
- G

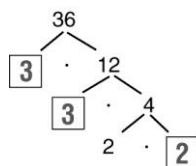
Reading Strategies

- difference of squares
- perfect square trinomial
- It will have 3 terms.
- $c^4 + 20c^2d + 100d^2$;
perfect square trinomial
- $4s^2 - 9$; difference of squares

LESSON 8-1

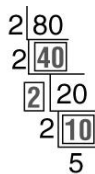
Practice A

1.



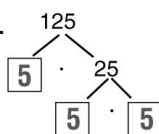
$$3^2 \cdot 2^2$$

2.



$$2^4 \cdot 5$$

3.



$$5^3$$

- | | |
|-----------|------------|
| 4. 5 | 5. 8 |
| 6. 12 | 7. 25 |
| 8. $3y^2$ | 9. p |
| 10. 6 | 11. $7y^2$ |
| 12. 16 | 13. 7 |

Practice B

- | | |
|------------------|---------------------------------|
| 1. $2 \cdot 3^2$ | 2. $2^3 \cdot 3 \cdot 5$ |
| 3. $2^3 \cdot 7$ | 4. $2 \cdot 3 \cdot 5 \cdot 13$ |

- | | |
|--------------------|-------------------|
| 5. $2^4 \cdot 3^2$ | 6. $3^2 \cdot 17$ |
| 7. 4 | 8. 9 |
| 9. 1 | 10. 7 |
| 11. 33 | 12. 20 |
| 13. 6 | 14. 42 |
| 15. $5x^2$ | 16. 6 |
| 17. $3t$ | 18. $9y$ |
| 19. 12 | 20. $2d^3$ |
| 21. m^6n | 22. $5h$ |
| 23. a. 16 | |
| b. 4 | |

Practice C

- | | |
|---|------------------|
| 1. $3 \cdot 5^2$ | 2. $2^5 \cdot 5$ |
| 3. $2^2 \cdot 5^3 \cdot 7$ | 4. 18 |
| 5. 6 | 6. 1 |
| 7. 18 | 8. 6 |
| 9. 4 | 10. 1 |
| 11. 8 | 12. $7m$ |
| 13. 13 | 14. $4x^2y$ |
| 15. $6s^3t^4$ | 16. 6 |
| 17. x^2 | 18. 1 |
| 19. $7y^2$ | |
| 20. 5 baskets; each will have 6 oranges, 9 apples, and 4 pears. | |
| 21. There will be 25 rows with 3 vehicles in each row. There will be 12 rows of cars, 4 rows of vans, and 9 rows of trucks. | |

Review for Mastery

- $$2^2 \cdot 11$$
- $$2^3 \cdot 7$$