

REVIEW: Prime and Composite Numbers

Name _____

Key Concept and Vocabulary

A **prime number** has only 1 and itself as factors. The first 5 prime numbers are 2, 3, 5, 7, and 11.

Prime Numbers



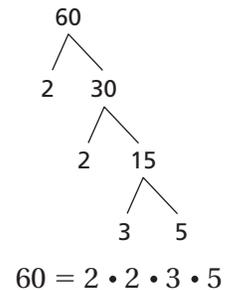
$$24 = 2 \cdot 2 \cdot 2 \cdot 3$$

composite

prime factorization

Visual Model

You can use a **factor tree** to find the prime factorization of a composite number.



Skill Examples

Prime Factorization

- $30 = 2 \cdot 3 \cdot 5$
- $42 = 2 \cdot 3 \cdot 7$
- $81 = 3 \cdot 3 \cdot 3 \cdot 3$
- $91 = 7 \cdot 13$
- $89 = 89$ (Prime)

Application Example

6. You get a paycheck every 2 weeks. Your annual salary is \$30,000. Can you get the same amount for each paycheck?

$$30,000 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 \cdot 5 \cdot 5 \cdot 5$$

- ❖ 30,000 is not divisible by 13, so you cannot have 26 paychecks of equal size.



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Check your answers at BigIdeasMath.com.

Write the prime factorization of the number.

7. $45 =$ _____ 8. $100 =$ _____ 9. $63 =$ _____

10. $256 =$ _____ 11. $54 =$ _____ 12. $55 =$ _____

13. $121 =$ _____ 14. $98 =$ _____ 15. $113 =$ _____

16. Use a factor tree to find the prime factorization of 36.

17. **EQUAL PAYCHECKS** You get a paycheck every 2 weeks. Your annual salary is \$39,000. Can you get the same amount for each paycheck? Explain why or why not.

18. **LISTING PRIME NUMBERS** List all the prime numbers that are less than 50.
