

Factors, Multiples, GCF and LCM

Name: _____ Date: _____ Score: _____ / 18

Quick Review and Helpful Hints

A *factor* divides a number evenly; a *multiple* is what you get by multiplying. The *GCF* (greatest common factor) is the largest factor two numbers share. The *LCM* (least common multiple) is the smallest multiple they share.

▶ **Example:** Find the GCF of 12 and 18. **Work:** Factors of 12: 1, 2, 3, 4, 6, 12. Factors of 18: 1, 2, 3, 6, 9, 18. The largest shared factor is 6. **★ Answer:** 6



Shared factors sit in the overlap.

◆ Practice Problems

Find the requested value.

- | | | | |
|---------------------|-------|--------------------------------|-------|
| 1. GCF of 6 and 9 | _____ | 8. GCF of 20 and 30 | _____ |
| 2. GCF of 12 and 18 | _____ | 9. LCM of 6 and 8 | _____ |
| 3. GCF of 8 and 12 | _____ | 10. GCF of 7 and 14 | _____ |
| 4. LCM of 3 and 4 | _____ | 11. LCM of 5 and 10 | _____ |
| 5. LCM of 4 and 6 | _____ | 12. GCF of 16 and 24 | _____ |
| 6. GCF of 10 and 15 | _____ | 13. Is 4 a factor of 20? | _____ |
| 7. LCM of 2 and 5 | _____ | 14. First three multiples of 5 | _____ |

◆ Word Problems

15. Two ropes of 12 ft and 18 ft are cut into equal-length pieces. What is the longest possible piece? _____
16. Two buses leave every 4 and 6 minutes. After how many minutes do they leave together again? _____
17. A teacher has 9 pencils and 12 erasers for prize bags. Each bag must be identical, with no supplies left over. What is the greatest number of bags she can make? _____
18. Two medication reminders beep every 3 hours and every 5 hours. If they beep together now, in how many hours will they beep together again? _____



Answer Keys

- | | | |
|------------------------------------|-------------------------------------|--|
| 1. <input type="text" value="3"/> | 7. <input type="text" value="10"/> | 13. <input type="text" value="Yes"/> |
| 2. <input type="text" value="6"/> | 8. <input type="text" value="10"/> | 14. <input type="text" value="5, 10, 15"/> |
| 3. <input type="text" value="4"/> | 9. <input type="text" value="24"/> | 15. <input type="text" value="6"/> |
| 4. <input type="text" value="12"/> | 10. <input type="text" value="7"/> | 16. <input type="text" value="12"/> |
| 5. <input type="text" value="12"/> | 11. <input type="text" value="10"/> | 17. <input type="text" value="3"/> |
| 6. <input type="text" value="5"/> | 12. <input type="text" value="8"/> | 18. <input type="text" value="15"/> |

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Shared factors of 6, 9: largest is 3. So the final answer is 3.
2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Largest shared factor of 12, 18 is 6. So the final answer is 6.
3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Shared factors of 8, 12: largest is 4. So the final answer is 4.
4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Multiples: 3, 6, 9, 12... and 4, 8, 12; first shared is 12. So the final answer is 12.
5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is 4, 8, 12 and 6, 12; first shared is 12. So the final answer is 12.
6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Shared factors of 10, 15: largest is 5. So the final answer is 5.
7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is 2, 4, 6, 8, 10 and 5, 10; first shared is 10. So the final answer is 10.
8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Largest shared factor of 20, 30 is 10. So the final answer is 10.
9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is 6, 12, 18, 24 and 8, 16, 24; first shared is 24. So the final answer is 24.

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is 7 divides both, so $GCF = 7$. So the final answer is 7.

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is 5, 10 and 10; $LCM = 10$. So the final answer is 10.

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Largest shared factor of 16, 24 is 8. So the final answer is 8.

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $20 \div 4 = 5$ exactly, so yes. So the final answer is Yes.

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $5 \times 1, 2, 3 = 5, 10, 15$. So the final answer is 5, 10, 15.

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Equal pieces use the GCF of 12, 18 = 6. So the final answer is 6.

16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is They meet at the LCM of 4, 6 = 12 minutes. So the final answer is 12.

17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is GCF of 9, 12 is 3. So the final answer is 3.

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is LCM of 3, 5 is 15. So the final answer is 15.



Keep Building HSPT Math Skills

Recommended Effortless Math resources



The Most Comprehensive HSPT Math Preparation Bundle

Use the complete HSPT Math resource for review, worked examples, extra practice, and test-style questions after each worksheet.



Scan Me
Download Instantly

STUDENT FAVORITE - HSPT Math for Beginners



HSPT Math for Beginners 2026

Step-by-step lessons, topic practice, and full review support for students who want a calm path through HSPT Math preparation.

A strong companion for self-study, tutoring, homework, and targeted review.

PDF Edition



Scan Me
Download Instantly

For more HSPT Math prep, visit EffortlessMath.com/HSPT