

Lecture Notes

Notes

- If you do not know the **Divisibility Rules** yet, you will find this section to be difficult.
- Always read the instructions written in blue (below answer box) to see the format of the answer.
 - Use a comma to separate the factors.
 - If a factor is repeated, list it only once.
 - When finding **all** the factors of a number, there is no easy way to do it. But there is a systematic way to do it using a list.
 - Start with the $1 \times$ given number.
 - Then you try $2 \times$ some number to see if the answer equals the given number.
 - Work up sequentially using divisibility rules, using prime or composite numbers.
- Thinking coins helps mainly for big numbers like 250. Think \$2.50. Ten quarters gives \$2.50...

Find all the factors of 46.	The factors of 46 are 1, 2, 23, 46. (Use a comma to separate answers as needed. Type each factor only once.)
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- Notice that they want **all** the factors.
- Start with $1 \cdot 46$ and work your way up... $2 \cdot 23$.

Find all the factors of 54.	The factors are 1, 2, 3, 6, 9, 18, 27, 54. (Use a comma to separate answers as needed. Type each factor only once.)
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- Using *divisibility rules* will help you on these types of problems.
- Start with $1 \cdot 54$ and work your way up... $2 \cdot 27$, etc.

Find all the factors of 100.	The factors are 1, 2, 4, 5, 10, 20, 25, 50, 100. (Use a comma to separate answers as needed. Type each factor only once.)
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- Notice that $10 \cdot 10 = 100$, but the factor 10 is written only once.

Find all the factors of 147.	The factors are 1, 3, 7, 21, 49, 147. (Use a comma to separate answers as needed. Type each factor only once.)
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- Although a divisibility rule exists for the number 7, it is not easy to use. Use long division instead.

Find all the factors of 49.	The factors are 1, 7, 49. (Use a comma to separate answers as needed. Type each factor only once.)
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- Notice that $7 \cdot 7 = 49$, but the factor 7 is written only once.