**Finding Factors**

Factors are the numbers you multiply to get another number.

- \(2 \times 3 = 6\) 
  - 2 and 3 are factors of 6.
- \(1 \times 6 = 6\) 
  - 1 and 6 are also factors of 6.

**What are the factors of 6?** 1, 2, 3, and 6.

**What are the factors of 21?** - 1, 3, 7, and 21

**What are the factors of 31?** - 1 and 31

**What are the factors of 24?** - 1, 2, 3, 4, 6, 8, 12, and 24

Find all of the factors for each number. List them in order from least to greatest.

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Complete the factor tree by filling in the missing factors.

a. 45
   x 5
   x x x

b. 18
   3 x
   x x 2

c. 28
   4 x
   x x x

d. 40
   x 5
   x 4 x
   x x x

e. 24
   8 x
   x 2 x
   x x x

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Complete the factor tree by filling in the missing factors.

a. \[ \frac{30}{\times 3} \]
   \[ \frac{2}{\times} \]

b. \[ \frac{63}{x} \]
   \[ \frac{9}{x} \]
   \[ \frac{7}{x} \]

c. \[ \frac{27}{x 3} \]
   \[ \frac{x}{x} \]

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d. \[ \frac{56}{\times 7} \]
   \[ \frac{4}{\times} \]
   \[ \frac{x}{x} \]

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e. \[ \frac{100}{x 20} \]
   \[ \frac{5}{x} \]
   \[ \frac{x}{x} \]
Greatest Common Factor

When you find all the factors of two or more numbers, and you find some factors are the same ("common"), the largest of those common factors is the Greatest Common Factor (GCF).

What are the factors of 12? 1, 2, 3, 4, 6, and 12
What are the factors of 20? 1, 2, 4, 5, 10, and 20
Which are the common factors? 1, 2, and 4
What is the GCF? 4

Find the GCF of each pair of numbers.

a. 6 and 15 -
b. 15 and 30 -
c. 9 and 12 -
d. 4 and 7 -
e. 8 and 10 -
f. 3 and 9 -
g. 21 and 35 -
h. 24 and 32 -
i. 15 and 25 -
j. 11 and 44 -
k. 20 and 30 -
l. 4 and 6 -
m. 9 and 27 -
n. 14 and 16 -
o. 5 and 11 -
p. 18 and 24 -
q. 3 and 37 -
r. 7 and 63 -