

Name:

Period:

# Notes 3-5

## Int 1

### More Practice with Factoring

## Unit 1

**What is a factor?** A number that divides (goes into) another number evenly.

Ex: 1, 2, 4, 5, 10, 20 are factors of 20.

How do you find the **Greatest Common Factor (GCF)**?

**List the Factors:**

Ex1. 20: 1, 2, 4, 5, 10, 20

16: 1, 2, 4, 8, 16

Check to see if the smallest number goes into the bigger number evenly. If not, check the factors of the smallest number starting with the bigger ones first.

Ex2: 28 & 14

14 2   14 1

GCF = 14

Ex3: 36 & 24

3 12   2 12

GCF = 12

**Find the greatest common factor (GCF).**

1. 5, 15   GCF = 5  
1·5   3·5

2. 12, 8   GCF = 4  
4·3   4·2

3. 14, 16   GCF = 2  
2·7   2·8

4. 1hg, 1g   GCF = 1g = g

5. jk, mn   GCF = 1

6. ab<sup>2</sup>, bc<sup>2</sup>   GCF = bc  
cb

**Find the greatest common factor (GCF) with numbers AND variables.**

7. 9hk, 18hk   GCF = 9hk  
9·1   9·2

8. 6fm, 24m   GCF = 6m  
6·1   6·4

9. 35hk, 15hk   GCF = 5hk  
5·7   5·3

10. 30ds, 9d   GCF = 3d  
3·10   3·3

**Factor the expressions completely.**

Start out by finding the GCF. Then divide it out (pull it out) and set up your expression.

11.  $20gh + 4h$  GCF = 4h

~~4~~5 ~~4~~1

$4h(5g + 1)$

12.  $17y + 34m$  GCF = 17y

~~17~~1 ~~17~~2

$17y(1 + 2m)$

check:  $20gh + 4h$

13.  $28f - 24fm$  GCF = 4f

~~4~~7 ~~4~~6

$4f(7 - 6m)$

14.  $19hd - 26hd$  GCF = hd

~~1~~19 ~~1~~26

$hd(19 - 26)$

$hd(19 - 26)$

15.  $12xy + 28xyz$  GCF = 4xy

$4xy(3 + 7z)$

16.  $36bn + 30n$  GCF = 6n

~~6~~6 ~~6~~5

$6n(6n + 5)$