

6.3 The Distributive Property & Common Factors

Use the Distributive Property to rewrite a sum as the product of the *GCF* of the numbers and a sum of two whole numbers with no common factor other than 1.

Numbers that have no common factor other than 1 are relatively prime.

Steps for Rewriting Using Distributive Property

- 1.) Find the greatest common factor (*GCF*) of the two addends (the numbers added together).
- 2.) Write each addend as a multiple of the *GCF*.
- 3.) Use the Distributive Property to write an equivalent expression with *GCF* as a factor.

Example: Use the Distributive Property and the GCF of the addends to rewrite each sum as an equivalent expression that has two factors.

1.) $32 + 12$ $\text{GCF} = 4$

$8 \cdot 4 + 3 \cdot 4$
 $4(8 + 3)$

2.) $18 + 27$ $\text{GCF} = 9$

$2 \cdot 9 + 3 \cdot 9$
 $9(2 + 3)$

3.) $21 + 56$ $\text{GCF} = 7$

$3 \cdot 7 + 8 \cdot 7$
 $7(3 + 8)$

4.) $12 + 27$ $\text{GCF} = 3$

$4 \cdot 3 + 9 \cdot 3$
 $3(4 + 9)$

5.) $14 + 40$ $\text{GCF} = 2$

$7 \cdot 2 + 20 \cdot 2$
 $2(7 + 20)$

Example: Use the Distributive Property to rewrite each product as the sum of two numbers.

6.) $4(3 + 6)$

$4 \cdot 3 + 4 \cdot 6$

$12 + 24$

7.) $4(12 + 2)$

$4 \cdot 12 + 4 \cdot 2$

$48 + 8$

8.) $3(5 + 1)$

$3 \cdot 5 + 3 \cdot 1$

$15 + 3$