

Chapter 3	Algebraic Expressions and Properties	
Date:	3.4 Ext. Factoring Expressions	
Essential Question	How do you use the Distributive Property to factor expressions?	
Vocab	Vocab	Definition
	algebraic expression	Writing a numerical expression or algebraic expression as a product of factors
	Examples	
	$3 \cdot 7 + 3 \cdot 2 = 3(7 + 2)$	$ab + ac = a(b + c)$
	$3 \cdot 7 - 3 \cdot 2 = 3(7 - 2)$	$ab - ac = a(b - c)$

Factor the Numerical Expression

$$20 - 12$$

Step 1: List the factor pairs of 20 and 12.

<u>20</u>	<u>12</u>
1, 20	1, 12
2, 10	2, 6
④, 5	3, ④

Step 2: Circle the GCF.

Step 3: Rewrite the expression using the GCF.

$$20 - 12 = 4(5) - 4(3)$$

Step 4: Write the expression using the Distributive Property.

$$4(5 - 3)$$

Complete problems 1-2 in your composition book.

1) Factor $44 - 11$ using the GCF.

44
1, 44
2, 22
4, **(11)**

11
1, **(11)**
 $11(4) - 11(1)$

$11(4 - 1)$

2) Factor $70 + 95$ using the GCF.

70
7 10
2 5

95
5 19

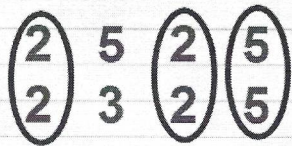
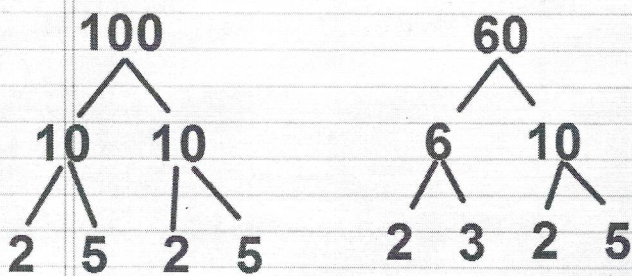
$5(14) + 5(19)$

7 2 **(5)**
19 **(5)**

$5(14 + 19)$

Complete numbers 1-2 on your notes page.

1) $100 - 60$

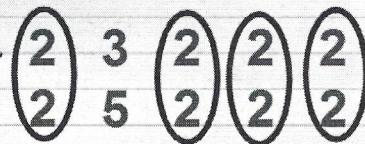
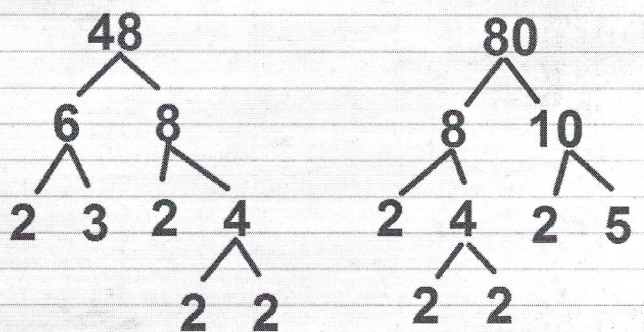


$GCF = 2 \cdot 2 \cdot 5 = 20$

$20(5) - 20(3)$

$20(5 - 3)$

2) $48 + 80$



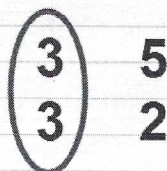
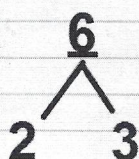
$GCF = 2 \cdot 2 \cdot 2 \cdot 2 = 16$

$16(3) + 16(5)$

$16(3 + 5)$

Complete problems 3-4 in your composition book.

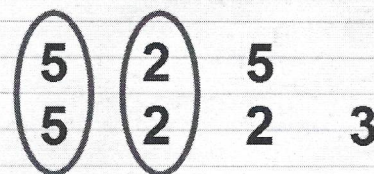
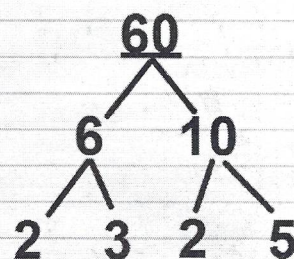
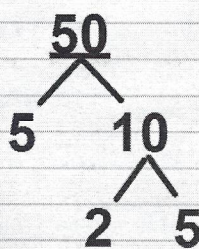
3) $15x + 6$



$$3(5x) + 3(2)$$

$$3(5x + 2)$$

4) $50y - 60$

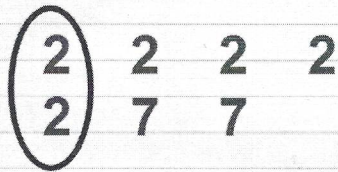
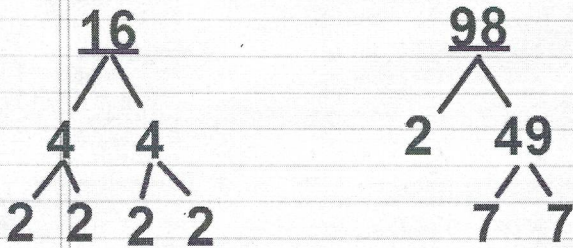


$$10(5y) - 10(6)$$

$$10(5y - 6)$$

Complete problems 3-4 on your notes page.

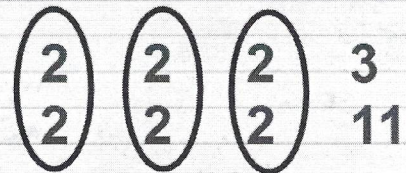
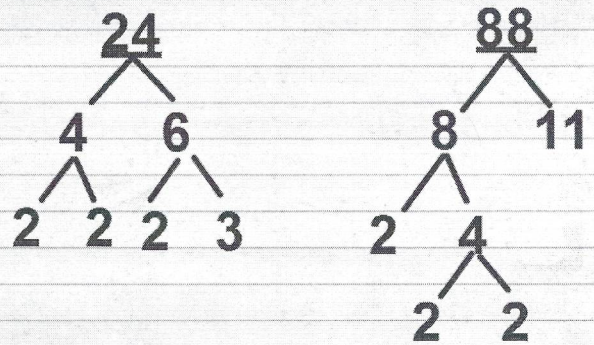
3) $16x - 98$



$$2(8x) + 2(49)$$

$$\boxed{2(8x + 49)}$$

4) $24y + 88x$





$$8(3y) + 8(11x)$$

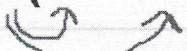
$$\boxed{8(3y + 11x)}$$

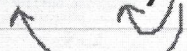
Complete problems 5-6 in your composition book.

5) Which expression is not equivalent to $16x + 24$?

a) $2(8x + 12)$

 $2(8x) + 2(12)$
 $16x + 24$

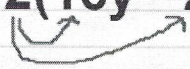
b) $4(4x + 6)$

 $4(4x) + 4(6)$
 $16x + 24$

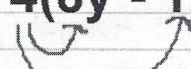
c) $6(3x + 4)$

 $6(3x) + 6(4)$
 $18x + 24$

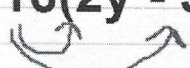
d) $(2x + 3)8$

 $(2x)8 + (3)8$
 $16x + 24$


Complete problems 5-6 in your composition book.

6) Which expression is not equivalent to $32y - 48$?

a) $2(16y - 24)$

 $2(16y) - 2(24)$
 $32y - 48$

b) $4(8y - 12)$

 $4(8y) - 4(12)$
 $32y - 48$

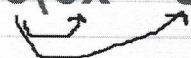
c) $16(2y - 3)$

 $16(2y) - 16(3)$
 $32y - 48$

d) $(2y - 8)6$

 $(2y)6 - (8)6$
 $12y - 48$

Complete problem 5 on your notes page.

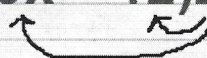
5) Which expression is not equivalent to $18x + 24$?

a) $3(6x + 8)$



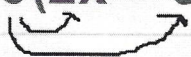
$$3(6x) + 3(8)$$
$$18x + 24$$

b) $(9x + 12)2$




$$(9x)2 + (12)2$$
$$18x + 24$$

c) $9(2x + 3)$



$$9(2x) + 9(3)$$
$$18x + 27$$

d) $2(9x + 12)$



$$2(9x) + 2(12)$$
$$18x + 24$$