

Georgia Department of Education
 Georgia Standards of Excellence Framework
GSE Algebra I • Unit 1

1. Can you find the pattern to the number puzzle below? Explain the pattern.

2	-6	-12
4	1	4
8	-6	-48

2. Now, use the pattern to complete this table.

3	-5	-15
8	-2	-16
24	10	240

HINT: Start with the question marks.

3. This can be expanded to multiplication with polynomials by solving the following:

1	$x + 3$	$x + 3$
$-2x + 5$	2	$-4x + 10$
$-2x + 5$	$2x + 6$	$-4x^2 - 2x + 30$

4. What about this one?

-5	$-2x + 3$	$10x - 15$
$3x - 2$	4	$12x - 8$
$-15x + 10$	$8x + 12$	$120x^2 - 260x + 120$

5. Work the following on your own for 10 minutes, and then complete the tables with a partner.

a.

1	$x + 7$	$x + 7$
$-2x + 5$	2	$-4x + 10$
$-2x + 5$	$2x + 14$	$-4x^2 - 18x + 70$

b.

-2	$x - 3$	$-2x + 6$
3	$-5x + 1$	$-15x + 3$
-6	$-5x^2 + 16x - 3$	$30x^2 - 96x + 18$

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c.

-4	<i>2</i>	-8
<i>$x + 3$</i>	<i>$x - 3$</i>	<i>$x^2 - 9$</i>
<i>$-4x - 12$</i>	$2x - 6$	$-8x^2 + 72$

d.

$x + 3$	<i>3</i>	<i>$3x + 9$</i>
2	<i>$4x$</i>	8x
<i>$2x + 6$</i>	12x	<i>$24x^2 + 72x$</i>

e.

<i>2</i>	<i>$x + 5$</i>	$2x + 10$
$x + 3$	7	<i>$7x + 21$</i>
$2x + 6$	<i>$7x + 35$</i>	<i>$14x^2 + 112x + 210$</i>

f.

6	<i>$2x + 2$</i>	<i>$12x + 12$</i>
<i>3</i>	$x + 3$	<i>$3x + 9$</i>
18	<i>$2x^2 + 8x + 6$</i>	$36x^2 + 144x + 108$