

Algebra 9th:

May 18 - 22

Time Allotment: 40 minutes per day

Student Name: _____

Teacher Name: Mrs. Hudson

Melanie.Hudson@GreatHeartsNorthernOaks.org

Zoom sessions: Monday and Wednesday at 10AM

Chapter 11: Rational and Irrational Numbers

Packet Overview

Date	Objective(s)	Page Number
Monday, May 18	Polynomials, Factoring Polynomials, and Linear Equations Be able to multiply and find powers of polynomials, multiply monomials by polynomials, multiply polynomials, factor polynomials, and write and graph linear equations.	2-6
Tuesday, May 20		7-11
Wednesday, May 21		12-16
Thursday, May 22	Polynomials, Factoring Polynomials, and Linear Equations Minor Assessment tomorrow	17-19
Friday, May 23	Polynomials, Factoring Polynomials, and Linear Equations Minor Assessment	20-22

Additional Notes:

- ❖ **Materials:** Printed packet or notebook paper; pencils. (Calculators **ARE NOT** needed).
 - **Note:** If you are using notebook paper, be sure to write pages and numbers of material.
 - **Example:** P. 6; #1) _____
- ❖ **Answers are provided at the end of the packet...p. 23-28**
- ❖ **Minor Assessment:** Located on pages 20-22. This should be taken *without* looking at previous work. No answers are provided for the quiz.

Academic Honesty

I certify that I completed this assignment independently in accordance with the GHNO Academy Honor Code.

Student signature:

I certify that my student completed this assignment independently in accordance with the GHNO Academy Honor Code.

Parent signature:

Algebra:
Review of Polynomials,
Factoring Polynomials, and Linear Equations

Unit Overview: Polynomials, Factoring Polynomials, and Linear Equations

- This week we are going to review similar questions each day from chapters 4, 5, and 8.
- Mastering these topics will help greatly in Algebra II.
- Each day you will have 18 examples and 18 questions.
- Friday will be a quiz with 18 questions.

Monday, May 18

Lesson: Review Polynomials, Factoring Polynomials, and Linear Equations.

Objective: Be able to multiply and find powers of polynomials, multiply monomials by polynomials, multiply polynomials, factor polynomials, and write and graph linear equations.

EXAMPLES	QUESTIONS
<p>Ex 1) Simplify $x^6 \cdot x^3 \cdot x$</p> <p><u>Long way</u> $x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$ x^{10}</p> <p><u>Short way</u> x^{6+3+1} x^{10}</p>	<p>1) Simplify $x^5 \cdot x \cdot x^2$</p>
<p>Ex 2) Simplify $(-3c^2d)(-4cd^2)$</p> <p>$-3 \ c^2 \ d \ -4 \ c \ d^2$</p> <p>$-3 \ -4 \ c^2 \ c \ d \ d^2$</p> <p>$\swarrow \quad \swarrow \quad \swarrow$</p> <p>$12 \quad c^3 \quad d^3$</p> <p>$12c^3d^3$</p>	<p>2) Simplify $(-4x^2y)(3xy^3)$</p>
<p>Ex 3) Simplify $(x^6)^3$</p> <p>$x^6 \cdot x^6 \cdot x^6$</p> <p>x^{6+6+6}</p> <p>x^{18}</p> <p>3 times you have x^6</p> <p>*Trick $x^6 \cdot 3$ x^{18}</p>	<p>3) Simplify $(x^5)^2$</p>

<p>Ex 4) Simplify</p> $(2x^3y)^4$ <p>$(2)^4 (x^3)^4 (y)^4$</p> $16x^{12}y^4$	<p>4) Simplify</p> $(-3x^2y^4)^3$										
<p>Ex 5) Multiply</p> $-3n(n-5)$ $-3n^2 + 15n$	<p>5) Multiply</p> $-4t(3-2t)$										
<p>Ex 6) Multiply</p> $(n+2)(n-5)$ <p>Box way or distribute</p> <table border="1" style="display: inline-table; margin-right: 20px;"> <tr><td>n</td><td>n-5</td></tr> <tr><td>n²-5n</td><td></td></tr> <tr><td>+2</td><td>2n-10</td></tr> <tr><td colspan="2">$n^2-5n+2n-10$</td></tr> <tr><td colspan="2">$n^2-3n-10$</td></tr> </table> $(n+2)(n-5)$ $n(n-5) + 2(n-5)$ $n^2-5n+2n-10$ $n^2-3n-10$	n	n-5	n ² -5n		+2	2n-10	$n^2-5n+2n-10$		$n^2-3n-10$		<p>6) Multiply</p> $(y-3)(y-4)$
n	n-5										
n ² -5n											
+2	2n-10										
$n^2-5n+2n-10$											
$n^2-3n-10$											
<p>Ex 7) Multiply</p> $(2x-1)(x+7)$ <table border="1" style="display: inline-table; margin-right: 20px;"> <tr><td>2x</td><td>x+7</td></tr> <tr><td>2x²+14x</td><td></td></tr> <tr><td>-1</td><td>-x-7</td></tr> <tr><td colspan="2">$2x^2+14x-x-7$</td></tr> <tr><td colspan="2">$2x^2+13x-7$</td></tr> </table>	2x	x+7	2x ² +14x		-1	-x-7	$2x^2+14x-x-7$		$2x^2+13x-7$		<p>7) Multiply</p> $(3x+5)(2x-3)$
2x	x+7										
2x ² +14x											
-1	-x-7										
$2x^2+14x-x-7$											
$2x^2+13x-7$											
<p>Ex 8) Multiply</p> $(x-3)^2$ <div style="border: 1px solid red; padding: 5px; display: inline-block; margin-left: 20px;">NOT x^2-9</div> $(x-3)(x-3)$ $x(x-3) - 3(x-3)$ $x^2-3x-3x+9$ x^2-6x+9	<p>8) Multiply</p> $(x-5)^2$										

<p>Ex 9) Factor $4x^2 - 9$</p> <p style="border: 1px solid blue; padding: 2px; display: inline-block;">Difference of two squares</p> $4x^2 - 9$ $2^2 x^2 - 3^2$ <div style="border: 1px solid green; padding: 5px; display: inline-block;"> $(2x - 3)(2x + 3)$ </div>	<p>9) Factor $25x^2 - 16$</p>																								
<p>Ex 10) Factor $x^2 - 6x + 9$</p> <p style="text-align: center;">x</p> $x^2 - 6x + 9$ $x^2 \quad \quad -3x \quad \quad -3x \quad \quad +9$ <table border="1" style="margin: 10px 0;"> <tr><td>x^2</td><td>$-3x$</td></tr> <tr><td>$-3x$</td><td>$+9$</td></tr> </table> <table border="1" style="margin: 10px 0;"> <tr><td>x</td><td>-3</td></tr> <tr><td>x</td><td>-3</td></tr> <tr><td>-3</td><td>$+9$</td></tr> </table> <div style="border: 1px solid green; padding: 5px; display: inline-block;"> $(x - 3)(x - 3)$ or $(x - 3)^2$ </div>	x^2	$-3x$	$-3x$	$+9$	x	-3	x	-3	-3	$+9$	<p>10) Factor $x^2 + 4x + 4$</p> <table border="1" style="margin: 10px 0;"> <tr><td>x</td><td>$+$</td></tr> <tr><td>9</td><td>-6</td></tr> <tr><td colspan="2"><hr/></td></tr> <tr><td>$1 \cdot 9$</td><td>$1 + 9 = 10$</td></tr> <tr><td>$3 \cdot 3$</td><td>$3 + 3 = 6$</td></tr> <tr><td>$-1 \cdot -9$</td><td>$-1 + -9 = -10$</td></tr> <tr><td>$-3 \cdot -3$</td><td>$-3 + -3 = -6$</td></tr> </table>	x	$+$	9	-6	<hr/>		$1 \cdot 9$	$1 + 9 = 10$	$3 \cdot 3$	$3 + 3 = 6$	$-1 \cdot -9$	$-1 + -9 = -10$	$-3 \cdot -3$	$-3 + -3 = -6$
x^2	$-3x$																								
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$-3 \cdot -3$	$-3 + -3 = -6$																								
<p>Ex 11) Factor $10x^2 - 11x + 3$</p> <p style="text-align: center;">x</p> $10x^2 - 5x - 6x + 3$ <table border="1" style="margin: 10px 0;"> <tr><td>$10x^2$</td><td>$-5x$</td></tr> <tr><td>$-6x$</td><td>$+3$</td></tr> </table> <table border="1" style="margin: 10px 0;"> <tr><td>$2x$</td><td>-1</td></tr> <tr><td>$5x$</td><td>-3</td></tr> <tr><td>-3</td><td>$+3$</td></tr> </table> <div style="border: 1px solid green; padding: 5px; display: inline-block;"> $(5x - 3)(2x - 1)$ </div>	$10x^2$	$-5x$	$-6x$	$+3$	$2x$	-1	$5x$	-3	-3	$+3$	<p>11) Factor $10x^2 + x - 3$</p> <table border="1" style="margin: 10px 0;"> <tr><td>x</td><td>$+$</td></tr> <tr><td>30</td><td>-11</td></tr> <tr><td colspan="2"><hr/></td></tr> <tr><td>$1 \cdot 30$</td><td></td></tr> <tr><td>$2 \cdot 15$</td><td></td></tr> <tr><td>$3 \cdot 10$</td><td></td></tr> <tr><td>$-5 \cdot -6$</td><td>$-5 + -6$</td></tr> </table>	x	$+$	30	-11	<hr/>		$1 \cdot 30$		$2 \cdot 15$		$3 \cdot 10$		$-5 \cdot -6$	$-5 + -6$
$10x^2$	$-5x$																								
$-6x$	$+3$																								
$2x$	-1																								
$5x$	-3																								
-3	$+3$																								
x	$+$																								
30	-11																								
<hr/>																									
$1 \cdot 30$																									
$2 \cdot 15$																									
$3 \cdot 10$																									
$-5 \cdot -6$	$-5 + -6$																								

Ex 12) Solve

$$a^2 + 7a = -6$$

← polynomial

$$a^2 + 7a + 6 = 0$$

← Factor

$$a^2 + 1a + 6a + 6 = 0$$

← Use box

$$(a+6)(a+1) = 0$$

← Need zero

x	+
6	7
1 6	1+6 ✓
2 3	2+3 NO

$$a+6=0 \quad a+1=0$$

$$a = -6 \quad a = -1$$

a	+1
a ²	1a
6a	+6

12) Solve

$$q^2 - 21q = -20$$

Ex 13) Solve

$$5n = 2n + 6$$

$$-2n \quad -2n$$

$$3n = 6$$

$$\frac{3}{3} \quad \frac{6}{3}$$

$$n = 2$$

13) Solve

$$8a = 2a + 30$$

Ex 14) Solve

$$y = 24 - 3y$$

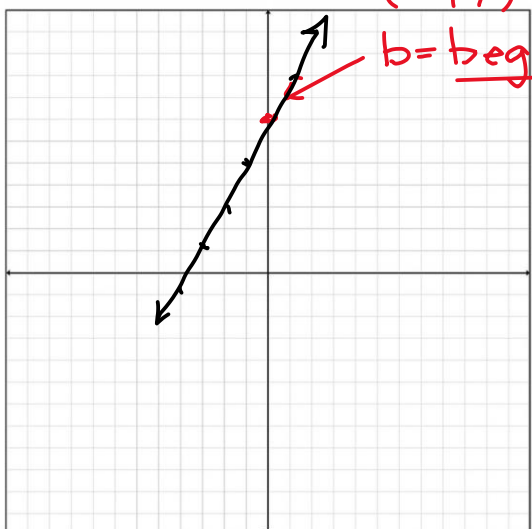
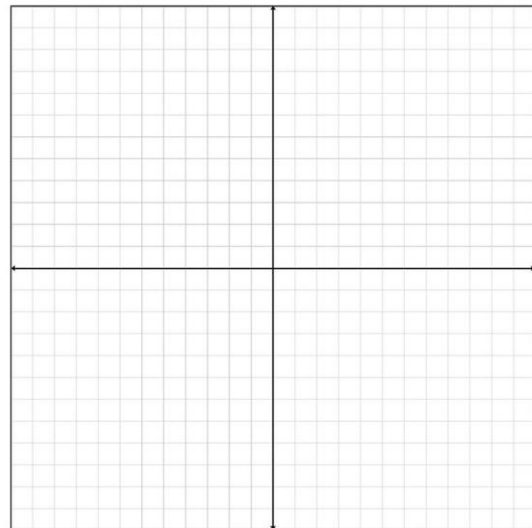
$$+3y \quad +3y$$

$$\frac{4y}{4} = \frac{24}{4}$$

$$y = 6$$

14) Solve

$$2b = 80 - 8b$$

<p>Ex 15)</p> <p style="text-align: center;">(0, 7), (1, 9)</p> <p style="text-align: center;">$x_1, y_1 \quad x_2, y_2$</p> <p>Slope (m) = <u>2</u> $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - 7}{1 - 0}$</p> <p style="text-align: center;">$m = \frac{2}{1} = 2$</p> <p>y-intercept: (0, 7) ← Given (0, b)</p> <p style="color: red;">↖ We have one where x=0</p> <p>Slope-intercept equation: $y = 2x + 7$ $y = mx + b$</p> <p style="text-align: center;">$y = 2x + 7$ $-2x \quad -2x$</p> <p style="color: red;">Can't have negative $-2x + y = 7$ $-1(2x + y - 7)$</p> <p>Standard form: $2x - y = -7$ $Ax + By = C$</p> <p>Graph: $M = \frac{2}{1}$ or $\frac{-2}{-1}$ $\begin{matrix} \text{up} \\ \text{right} \end{matrix}$ $\begin{matrix} \text{down} \\ \text{left} \end{matrix}$</p> 	<p>15) (0, 5), (1, 2)</p> <p>Slope (m) = _____</p> <p>y-intercept: _____</p> <p>Slope-intercept equation: _____ $y = mx + b$</p> <p>Standard form: _____ $Ax + By = C$</p> <p>Graph:</p> 
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➤ Check your answers in the back of the packet!

Tuesday, May 19

Lesson: Review Polynomials, Factoring Polynomials, and Linear Equations.

Objective: Be able to multiply and find powers of polynomials, multiply monomials by polynomials, multiply polynomials, factor polynomials, and write and graph linear equations.

EXAMPLES	QUESTIONS
<p>Ex 1) Simplify</p> <p>Add exponents when multiplying</p> $x^4 \cdot x^{10} \cdot x$ x^{4+10+1} x^{15}	<p>1) Simplify</p> $x^9 \cdot x \cdot x^5$
<p>Ex 2) Simplify</p> $(3c^4d^3)(-7cd^3)$ $3c^4d^3 \cdot -7cd^3$ $3 \cdot -7 \cdot c^4 \cdot c \cdot d^3 \cdot d^3$ $-21c^{4+1}d^{3+3}$ $-21c^5d^3$	<p>2) Simplify</p> $(-3x^4y)(-3xy^4)$
<p>Ex 3) Simplify</p> <p>Power raised with a power multiply exponents</p> $(x^2)^3$ x^6 <p>or</p> $x^2 \cdot x^2 \cdot x^2$ x^{2+2+2} x^6 <p>Now we add like before</p>	<p>3) Simplify</p> $(x^5)^4$
<p>Ex 4) Simplify</p> $(-2x^2y^3)^2$ $(-2)^2 (x^2)^2 (y^3)^2$ $4x^4y^6$	<p>4) Simplify</p> $(-2x^2y^4)^3$

<p>Ex 5) Multiply</p> $-n(n-9)$ $-n^2 + 9n$	<p>5) Multiply</p> $-5t(1-7t)$									
<p>Ex 6) Multiply</p> $(n+9)(n-2)$ $n^2 - 2n + 9n - 18$ $n^2 + 7n - 18$	<p>6) Multiply</p> $(y-5)(y-4)$									
<p>Ex 7) Multiply</p> $(2x-3)(x+2)$ <p>or use box</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">x</td> <td style="text-align: center;">+2</td> </tr> <tr> <td style="text-align: right;">2x</td> <td style="text-align: center;">2x²</td> <td style="text-align: center;">+4x</td> </tr> <tr> <td style="text-align: right;">-3</td> <td style="text-align: center;">-3x</td> <td style="text-align: center;">-6</td> </tr> </table> $2x^2 + 4x - 3x - 6$ $2x^2 + x - 6$		x	+2	2x	2x ²	+4x	-3	-3x	-6	<p>7) Multiply</p> $(3x-2)(2x-3)$
	x	+2								
2x	2x ²	+4x								
-3	-3x	-6								
<p>Ex 8) Multiply</p> $(x-1)^2$ <div style="border: 1px solid red; padding: 2px; display: inline-block; margin-left: 100px;">NOT x² + 1</div> $(x-1)(x-1)$ $x^2 - 1x - 1x + 1$ $x^2 - 2x + 1$	<p>8) Multiply</p> $(x-4)^2$									

<p>Ex 9) Factor</p> $x^2 - 16$ $x^2 - 4^2$ <div style="border: 2px solid purple; padding: 5px; width: fit-content; margin: 10px auto;"> $(x - 4)(x + 4)$ </div>	<p>9) Factor</p> $x^2 - 1$																				
<p>Ex 10) Factor</p> $x^2 - 4x + 4$ $x^2 - 2x - 2x + 4$ <table border="1" style="margin: 10px auto;"> <tr> <td style="padding: 2px 5px;">x</td> <td style="padding: 2px 5px;">-2</td> </tr> <tr> <td style="padding: 2px 5px;">x^2</td> <td style="padding: 2px 5px;">$-2x$</td> </tr> <tr> <td style="padding: 2px 5px;">$-2x$</td> <td style="padding: 2px 5px;">$+4$</td> </tr> </table> <div style="margin: 10px auto;"> <table style="border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">x</td> <td style="padding: 2px 5px;">$+$</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;">4</td> <td style="padding: 2px 5px;">-4</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">4</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;">-1</td> <td style="padding: 2px 5px;">-4</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;">$\cdot 2$</td> <td style="padding: 2px 5px;">2</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;">-2</td> <td style="padding: 2px 5px;">-2</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;"></td> <td style="padding: 2px 5px;"><u><u>$-2 + -2$</u></u></td> </tr> </table> </div> <div style="border: 2px solid purple; padding: 5px; width: fit-content; margin: 10px auto;"> $(x - 2)(x - 2)$ <p style="text-align: center;">or</p> $(x - 2)^2$ </div>	x	-2	x^2	$-2x$	$-2x$	$+4$	x	$+$	4	-4	1	4	-1	-4	$\cdot 2$	2	-2	-2		<u><u>$-2 + -2$</u></u>	<p>10) Factor</p> $x^2 + 6x + 9$
x	-2																				
x^2	$-2x$																				
$-2x$	$+4$																				
x	$+$																				
4	-4																				
1	4																				
-1	-4																				
$\cdot 2$	2																				
-2	-2																				
	<u><u>$-2 + -2$</u></u>																				
<p>Ex 11) Factor</p> $k^2 + 8k + 7$ $k^2 + 1k + 7k + 7$ <table border="1" style="margin: 10px auto;"> <tr> <td style="padding: 2px 5px;">k</td> <td style="padding: 2px 5px;">$+1$</td> </tr> <tr> <td style="padding: 2px 5px;">k^2</td> <td style="padding: 2px 5px;">$+1k$</td> </tr> <tr> <td style="padding: 2px 5px;">$+7$</td> <td style="padding: 2px 5px;">$+7$</td> </tr> </table> <div style="margin: 10px auto;"> <table style="border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">x</td> <td style="padding: 2px 5px;">$+$</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;">7</td> <td style="padding: 2px 5px;">8</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">7</td> </tr> </table> </div> <div style="border: 2px solid purple; padding: 5px; width: fit-content; margin: 10px auto;"> $(k + 7)(k + 1)$ </div>	k	$+1$	k^2	$+1k$	$+7$	$+7$	x	$+$	7	8	1	7	<p>11) Factor</p> $x^2 - 9x + 20$								
k	$+1$																				
k^2	$+1k$																				
$+7$	$+7$																				
x	$+$																				
7	8																				
1	7																				

<p>Ex 12) Solve</p> $d^2 = 14d - 45$ $\begin{array}{r} -14d + 45 \\ \hline d^2 - 14d + 45 = 0 \end{array}$ $\begin{array}{r} -14d + 45 \\ \hline d^2 - 5d - 9d + 45 = 0 \end{array}$ $(d-9)(d-5) = 0$ $d-9=0 \quad d-5=0$ $d=9 \quad d=5$ <div style="float: right; margin-top: 20px;"> <table style="border-collapse: collapse;"> <tr><td style="padding: 0 5px;">x</td><td style="padding: 0 5px;">+</td></tr> <tr><td style="border-right: 1px solid black; padding: 0 5px;">45</td><td style="padding: 0 5px;">-14</td></tr> <tr><td colspan="2" style="border-top: 1px solid black;"></td></tr> <tr><td style="padding: 0 5px;">1</td><td style="padding: 0 5px;">45</td></tr> <tr><td style="padding: 0 5px;">3</td><td style="padding: 0 5px;">15</td></tr> <tr><td style="padding: 0 5px;">-5</td><td style="padding: 0 5px;">9</td></tr> <tr><td style="padding: 0 5px;">-5</td><td style="padding: 0 5px;">-9</td></tr> <tr><td style="padding: 0 5px;"></td><td style="padding: 0 5px;">-5</td></tr> <tr><td style="padding: 0 5px;"></td><td style="padding: 0 5px;">-9</td></tr> </table> <table style="border-collapse: collapse;"> <tr><td style="padding: 0 5px;">d</td><td style="padding: 0 5px;">-5</td></tr> <tr><td style="border-right: 1px solid black; padding: 0 5px;">d²</td><td style="padding: 0 5px;">-5d</td></tr> <tr><td style="padding: 0 5px;">-9</td><td style="padding: 0 5px;">-9d + 45</td></tr> </table> </div>	x	+	45	-14			1	45	3	15	-5	9	-5	-9		-5		-9	d	-5	d ²	-5d	-9	-9d + 45	<p>12) Solve</p> $y^2 = 7y + 18$
x	+																								
45	-14																								
1	45																								
3	15																								
-5	9																								
-5	-9																								
	-5																								
	-9																								
d	-5																								
d ²	-5d																								
-9	-9d + 45																								
<p>Ex 13) Solve</p> $\begin{array}{r} 12n = 34 - 5n \\ + 5n \quad + 5n \\ \hline 17n = 34 \\ \hline 17 \quad 17 \end{array}$ $n = 2$	<p>13) Solve</p> $3x = 27 - 15x$																								
<p>Ex 14) Solve</p> $\begin{array}{r} 30 = 8 - 2x \\ -8 \quad -8 \\ \hline 22 = -2x \\ \hline -2 \quad -2 \end{array}$ $-11 = x$	<p>14) Solve</p> $51 = 9 - 3x$																								

<p>Ex 15) (5, 2), (7, 0)</p> <p>x_1, y_1, x_2, y_2</p> <p>Slope (m) = _____</p> <p>$m = -1$</p> <p>or $\frac{-1}{1}$ or $\frac{1}{-1}$</p> <p>y-intercept: (0, 7)</p> <p>$y = mx + b$</p> <p>$y = -1x + b$</p> <p>$0 = -1(7) + b$</p> <p>$0 = -7 + b$</p> <p>$7 = b$</p> <p>Slope-intercept equation: <u>$y = -1x + 7$</u></p> <p>$y = mx + b$</p> <div style="text-align: center;"> $\begin{array}{r} +1x \\ X + Y = 7 \end{array}$ </div> <p>Standard form: <u>$X + Y = 7$</u></p> <p>$Ax + By = C$</p> <p>Graph:</p> <div style="border: 1px solid black; width: 100%; height: 150px; position: relative;"> <div style="position: absolute; top: 10px; left: 10px;"> $M = \frac{-1 \text{ down}}{1 \text{ R } 1}$ </div> <div style="position: absolute; top: 10px; right: 10px;"> (0, 7) </div> </div>	<p>15) (-3, 4), (3, -4)</p> <p>Slope (m) = _____</p> <p>y-intercept: _____</p> <p>Slope-intercept equation: _____</p> <p>$y = mx + b$</p> <p>Standard form: _____</p> <p>$Ax + By = C$</p> <p>Graph:</p> <div style="border: 1px solid black; width: 100%; height: 150px;"> </div>
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➤ Correct answers in the back of the packet.

Wednesday, May 20

Lesson: Review Polynomials, Factoring Polynomials, and Linear Equations.

Objective: Be able to multiply and find powers of polynomials, multiply monomials by polynomials, multiply polynomials, factor polynomials, and write and graph linear equations.

EXAMPLES

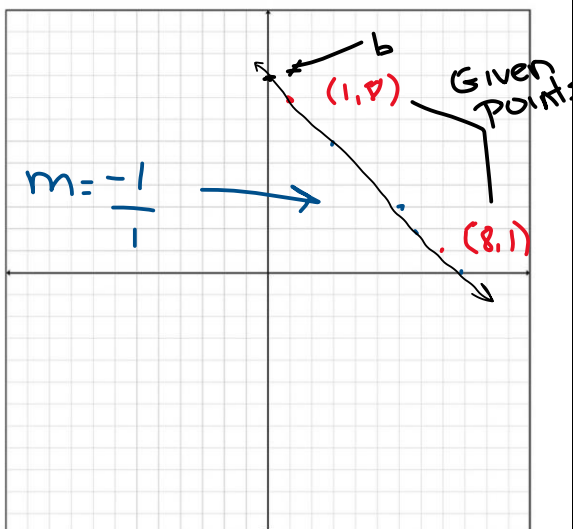
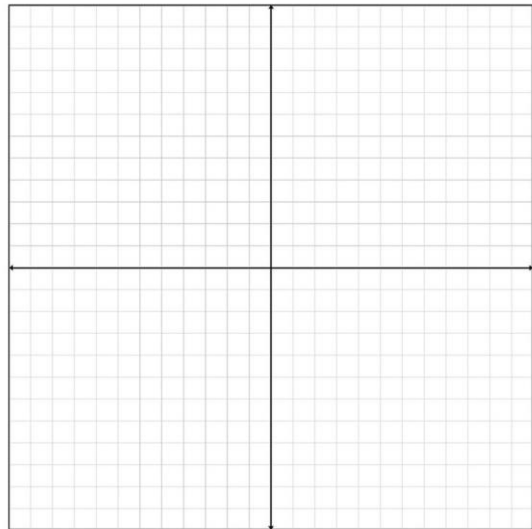
QUESTIONS

<p>Ex 1) Simplify</p> $x^9 \cdot x^2 \cdot x^4$ <p>x^{15}</p>	<p>1) Simplify</p> $x^8 \cdot x^3 \cdot x^2$
<p>Ex 2) Simplify</p> $(-5c^4d)(-2cd^5)$ <p>$-5 \quad -2 \quad c^4 \quad c \quad d \quad d^5$</p> <p>$10c^5d^6$</p>	<p>2) Simplify</p> $(-x^2y^6)(6xy^4)$
<p>Ex 3) Simplify</p> $(x^5)^3$ <p>x^{15}</p>	<p>3) Simplify</p> $(x^7)^2$
<p>Ex 4) Simplify</p> $(-2x^3y)^3$ <p>$(-2)^3 (x^3)^3 (y)^3$</p> <p>$-8x^9y^3$</p>	<p>4) Simplify</p> $(-3x^2y^4)^2$

<p>Ex 5) Multiply</p> $\overbrace{n(n+5)}$ $\boxed{n^2 + 5n}$	<p>5) Multiply</p> $-8t(3 - 2t)$									
<p>Ex 6) Multiply</p> $(n - 2)(n - 1)$ <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">n</td> <td style="text-align: center;">-1</td> </tr> <tr> <td style="text-align: center;">n</td> <td style="text-align: center;">n^2</td> <td style="text-align: center;">$-1n$</td> </tr> <tr> <td style="text-align: center;">-2</td> <td style="text-align: center;">$-2n$</td> <td style="text-align: center;">$+2$</td> </tr> </table> $n^2 - 1n - 2n + 2$ $\boxed{n^2 - 3n + 2}$		n	-1	n	n^2	$-1n$	-2	$-2n$	$+2$	<p>6) Multiply</p> $(y - 9)(y - 9)$
	n	-1								
n	n^2	$-1n$								
-2	$-2n$	$+2$								
<p>Ex 7) Multiply</p> $(3x - 5)(x + 2)$ $(3x - 5)(x + 2)$ $\overbrace{3x(x+2)} \quad \overbrace{-5(x+2)}$ $3x^2 + 6x - 5x - 10$ $\boxed{3x^2 + x - 10}$	<p>7) Multiply</p> $(3x + 5)(x - 7)$									
<p>Ex 8) Multiply</p> $(x + 3)^2$ $(x + 3)(x + 3)$ $x(x + 3) + 3(x + 3)$ $x^2 + 3x + 3x + 9$ $\boxed{x^2 + 6x + 9}$ <p style="color: red; margin-left: 200px;">* you can use the box</p>	<p>8) Multiply</p> $(x + 5)^2$									

<p>Ex 9) Factor</p> $25x^2 - 1$ $5^2x^2 - 1^2$ $(5x - 1)(5x + 1)$	<p>9) Factor</p> $144x^2 - 1$																	
<p>Ex 10) Factor</p> $a^2 - 2a + 1$ $a^2 - 1a - 1a + 1$ $(a - 1)(a - 1)$ <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">x</td> <td style="padding: 5px;">+</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">1</td> <td style="padding: 5px;">-2</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">1 1</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">-1 -1</td> <td style="padding: 5px;">-1 + -1</td> </tr> </table> <table style="margin-left: auto; margin-right: auto; margin-top: 10px;"> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;">a</td> <td style="padding: 5px;">-1</td> </tr> <tr> <td style="padding: 5px;">a</td> <td style="border: 1px solid black; padding: 5px;">a^2</td> <td style="border: 1px solid black; padding: 5px;">$-1a$</td> </tr> <tr> <td style="padding: 5px;">-1</td> <td style="border: 1px solid black; padding: 5px;">$-1a$</td> <td style="border: 1px solid black; padding: 5px;">$+1$</td> </tr> </table>	x	+	1	-2	1 1		-1 -1	-1 + -1		a	-1	a	a^2	$-1a$	-1	$-1a$	$+1$	<p>10) Factor</p> $u^2 + 12u + 35$
x	+																	
1	-2																	
1 1																		
-1 -1	-1 + -1																	
	a	-1																
a	a^2	$-1a$																
-1	$-1a$	$+1$																
<p>Ex 11) Factor</p> $6x^2 + 13x + 5$ $6x^2 + 3x + 10x + 5$ $(3x + 5)(2x + 1)$ <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">x</td> <td style="padding: 5px;">+</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">30</td> <td style="padding: 5px;">13</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">1 30</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">2 15</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">3 10</td> <td style="padding: 5px;">3 + 10</td> </tr> </table> <table style="margin-left: auto; margin-right: auto; margin-top: 10px;"> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;">2x + 1</td> </tr> <tr> <td style="padding: 5px;">3x</td> <td style="border: 1px solid black; padding: 5px;">$6x^2 + 3x$</td> </tr> <tr> <td style="padding: 5px;">+5</td> <td style="border: 1px solid black; padding: 5px;">$+10x + 5$</td> </tr> </table>	x	+	30	13	1 30		2 15		3 10	3 + 10		2x + 1	3x	$6x^2 + 3x$	+5	$+10x + 5$	<p>11) Factor</p> $2x^2 + 11x + 12$	
x	+																	
30	13																	
1 30																		
2 15																		
3 10	3 + 10																	
	2x + 1																	
3x	$6x^2 + 3x$																	
+5	$+10x + 5$																	

<p>Ex 12) Solve</p> $\begin{array}{r} y^2 - 18 \\ -7y \end{array} = \begin{array}{r} 7y \\ -7y \end{array}$ $y^2 - 7y - 18 = 0$ $y^2 + 2y - 9y - 18 = 0$ $(y-9)(y+2) = 0$ <p> $y-9=0$ $y+2=0$ $y=9$ $y=-2$ </p> <table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">y</td> <td style="padding: 5px;">+2</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">y²</td> <td style="padding: 5px;">2y</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">-9</td> <td style="padding: 5px;">-9y-18</td> </tr> </table>	y	+2	y ²	2y	-9	-9y-18	<p>12) Solve</p> $c^2 - 36 = -5c$
y	+2						
y ²	2y						
-9	-9y-18						
<p>Ex 13) Solve</p> $\begin{array}{r} 51 \\ -9 \end{array} = \begin{array}{r} 9 - 3x \\ -9 \end{array}$ $\begin{array}{r} 42 \\ -3 \end{array} = \begin{array}{r} -3x \\ -3 \end{array}$ $-14 = x$	<p>13) Solve</p> $51a - 56 = 44a$						
<p>Ex 14) Solve</p> $\begin{array}{r} 39c + 78 \\ -39c \end{array} = \begin{array}{r} 33c \\ -39c \end{array}$ $\begin{array}{r} 78 \\ -6 \end{array} = \begin{array}{r} -6c \\ -6 \end{array}$ $-13 = c$	<p>14) Solve</p> $98 - 4b = -11b$						

<p>Ex 15)</p> <p style="text-align: center;">(8, 1), (1, 8)</p> <p>x_1, y_1, x_2, y_2</p> <p>Slope (m) = $\frac{8-1}{1-8} = \frac{7}{-7}$</p> <p style="text-align: center;">$m = -1$</p> <p>y-intercept: (0, 9)</p> <p style="text-align: center;">$y = mx + b$</p> <p style="text-align: center;">$y = -1x + b$</p> <p style="text-align: center;">(8, 1)</p> <p style="text-align: center;">x y</p> <p style="text-align: center;">$1 = -1(8) + b$</p> <p style="text-align: center;">$1 = -8 + b$</p> <p style="text-align: center;">$9 = b$</p> <p>Slope-intercept equation: $y = -1x + 9$</p> <p>$y = mx + b$</p> <p style="text-align: center;">$y = -1x + 9$</p> <p style="text-align: center;">$+1x +1x$</p> <p style="text-align: center;">$x + y = 9$</p> <p>Standard form: $x + y = 9$</p> <p>$Ax + By = C$</p> <p>Graph:</p> 	<p>15) (-2, 4), (4, 2)</p> <p>Slope (m) = _____</p> <p>y-intercept: _____</p> <p>Slope-intercept equation: _____</p> <p>$y = mx + b$</p> <p>Standard form: _____</p> <p>$Ax + By = C$</p> <p>Graph:</p> 
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➤ CHECK THE ANSWERS!

Thursday, May 21

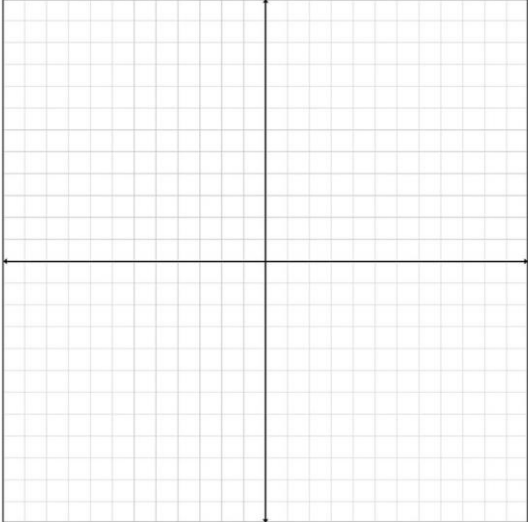
Lesson: Review Polynomials, Factoring Polynomials, and Linear Equations.

Objective: Be able to multiply and find powers of polynomials, multiply monomials by polynomials, multiply polynomials, factor polynomials, and write and graph linear equations.

➤ **Practice for tomorrow's QUIZ!**

1) Simplify $x^3 \cdot x^4 \cdot x^5$	2) Simplify $(-15c^6d^2)(2cd^4)$
3) Simplify $(x^{12})^2$	4) Simplify $(-x^7y^2)^5$
5) Multiply $-4n(n - 1)$	6) Multiply $(n - 8)(n - 6)$

7) Multiply $(5x - 6)(x + 3)$	8) Multiply $(x + 2)^2$
9) Factor $121x^2 - 9y^2$	10) Factor $n^2 - 16n + 48$
11) Factor $10x^2 + x - 2$	12) Solve $h^2 = -3h + 54$

<p>13) Solve</p> $2(x - 6) = 3x$	<p>14) Solve</p> $5(2 + n) = 3(n + 6)$
<p>Given:</p> $(3, -1), (6, 7)$ <p>15) Slope (m) = _____</p> <p>16) y-intercept: _____</p> <p>17) Slope-intercept equation: _____ $y = mx + b$</p> <p>18) Standard form: _____ $Ax + By = C$</p>	<p>19) Graph</p> 

➤ Answers are in the back of the packet.

Friday, May 22

Lesson: Review Polynomials, Factoring Polynomials, and Linear Equations.

Objective: Be able to multiply and find powers of polynomials, multiply monomials by polynomials, multiply polynomials, factor polynomials, and write and graph linear equations.

➤ **QUIZ!!!**

1) Simplify $x^2 \cdot x^3 \cdot x^4$	2) Simplify $(-4x^7y^3)(xy^3)$
3) Simplify $(x^{10})^5$	4) Simplify $(-3x^4y^7)^3$
5) Multiply $-5t(9 - 12t)$	6) Multiply $(y - 6)(y - 7)$

7) Multiply $(x + 5)(2x - 7)$	8) Multiply $(x + 4)^2$
9) Factor $4x^2 - y^2$	10) Factor $c^2 + 3c - 18$
11) Factor $3x^2 - 17x + 10$	12) Solve $3m^2 + 1 = 4m$

13) Solve

$$3(30 + s) = 4(s + 19)$$

14) Find the slope

$$(3, -1), (-2, -4)$$

15) Find the y-intercept

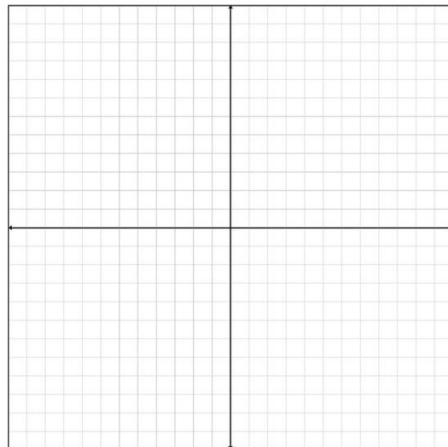
$$m = \frac{1}{2}, (-4, 5)$$

16) Write this in standard form

$$y = -3x - 2$$

17) Graph this equation

$$y = -3x - 2$$



➤ Have a great weekend!

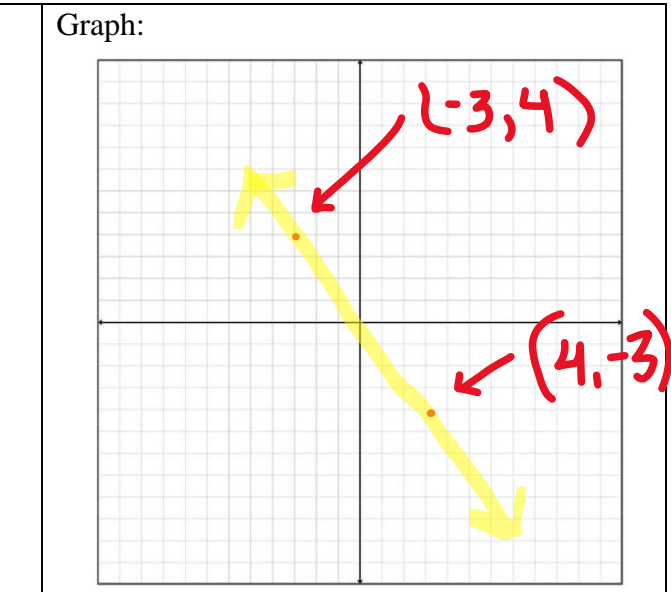
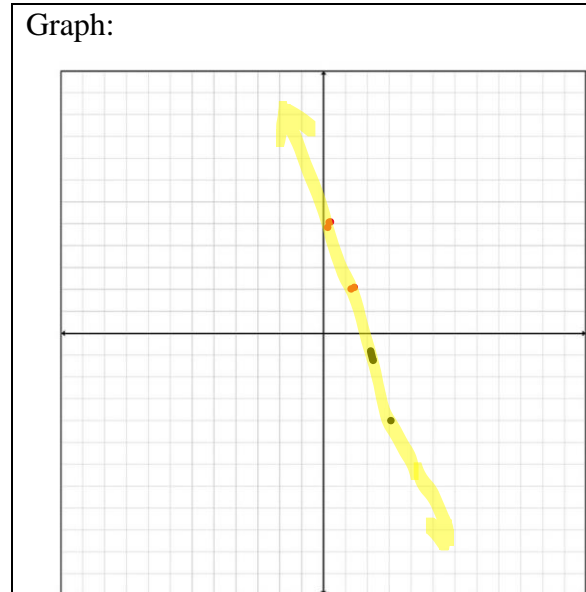
ANSWERS!

Monday	Tuesday
1) Simplify $x^5 \cdot x \cdot x^2$ x^8	1) Simplify $x^9 \cdot x \cdot x^5$ x^{15}
2) Simplify $(-4x^2y)(3xy^3)$ $-12x^3y^4$	2) Simplify $(-3x^4y)(-3xy^4)$ $9x^5y^5$
3) Simplify $(x^5)^2$ x^{10}	3) Simplify $(x^5)^4$ x^{20}
4) Simplify $(-3x^2y^4)^3$ $-27x^6y^{12}$	4) Simplify $(-2x^2y^4)^3$ $-8x^6y^{12}$
5) Multiply $-4t(3 - 2t)$ $-12t + 8t^2$	5) Multiply $-5t(1 - 7t)$ $-5t + 35t^2$
6) Multiply $(y - 3)(y - 4)$ $y^2 - 7y + 12$	6) Multiply $(y - 5)(y - 4)$ $y^2 - 9y + 20$
7) Multiply $(3x + 5)(2x - 3)$ $6x^2 + x - 15$	7) Multiply $(3x - 2)(2x - 3)$ $6x^2 - 13x + 6$
8) Multiply $(x - 5)^2$ $x^2 - 10x + 25$	8) Multiply $(x - 4)^2$ $x^2 - 8x + 16$
9) Factor $25x^2 - 16$ $(5x - 4)(5x + 4)$	9) Factor $x^2 - 1$ $(x - 1)(x + 1)$

Monday

Tuesday

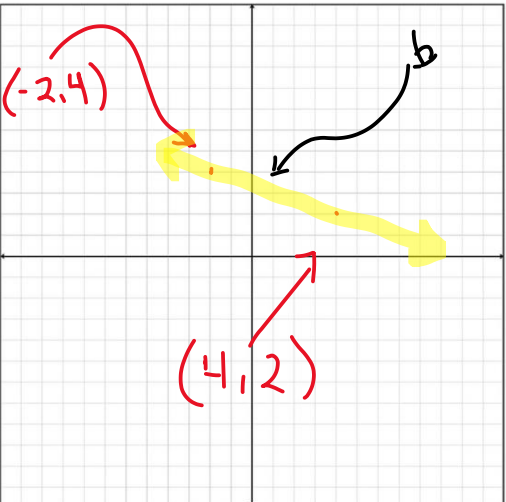
<p>10) Factor</p> $x^2 + 4x + 4$ $(x + 2)(x + 2)$	<p>10) Factor</p> $x^2 + 6x + 9$ $(x + 3)(x + 3)$
<p>11) Factor</p> $10x^2 + x - 3$ $(2x - 1)(5x + 3)$	<p>11) Factor</p> $x^2 - 9x + 20$ $(x - 5)(x - 4)$
<p>12) Solve</p> $q^2 - 21q = -20$ $q = 1, q = 20$	<p>12) Solve</p> $y^2 = 7y + 18$ $y = 9, y = -2$
<p>13) Solve</p> $8a = 2a + 30$ $a = 5$	<p>13) Solve</p> $3x = 27 - 15x$ $x = \frac{3}{2}$
<p>14) Solve</p> $2b = 80 - 8b$ $b = 8$	<p>14) Solve</p> $51 = 9 - 3x$ $x = -14$
<p>15) (0, 5), (1, 2)</p> <p>Slope (m) = $\underline{-3}$</p> <p>y-intercept: $\underline{(0, 5)}$</p> <p>Slope-intercept equation: $\underline{y = -3x + 5}$</p> <p>$y = mx + b$</p> <p>Standard form: $\underline{3x + y = 5}$</p> <p>$Ax + By = C$</p> <p>Graphs on next page</p>	<p>15) (-3, 4), (3, -4)</p> <p>Slope (m) = $\underline{-\frac{8}{9}}$</p> <p>y-intercept: $\underline{-\frac{4}{3}}$</p> <p>Slope-intercept equation: $\underline{y = -\frac{8}{9}x - \frac{4}{3}}$</p> <p>$y = mx + b$</p> <p>Standard form: $\underline{8x + 9y = -12}$</p> <p>$Ax + By = C$</p> <p>Graphs on next page</p>



Wednesday

1) Simplify	$x^8 \cdot x^3 \cdot x^2$ x^{13}
2) Simplify	$(-x^2y^6)(6xy^4)$ $-6x^3y^{10}$
3) Simplify	$(x^7)^2$ x^{14}
4) Simplify	$(-3x^2y^4)^2$ $9x^4y^8$
5) Multiply	$-8t(3 - 2t)$ $-24t + 16t^2$
6) Multiply	

	$(y - 9)(y - 9)$ $y^2 - 18y + 81$
7) Multiply	$(3x + 5)(x - 7)$ $3x^2 - 16x - 35$
8) Multiply	$(x + 5)^2$ $x^2 + 10x + 25$
9) Factor	$144x^2 - 1$ $(12x - 1)(12x + 1)$
10) Factor	$u^2 + 12u + 35$ $(u + 7)(u + 5)$

11) Factor $2x^2 + 11x + 12$ $(2x + 3)(x + 4)$
12) Solve $c^2 - 36 = -5c$ $c = -9, c = 4$
13) Solve $51a - 56 = 44a$ $a = 8$
14) Solve $98 - 4b = -11b$ $b = -14$
15) $(-2, 4), (4, 2)$ Slope (m) = $\frac{-1}{3}$ y-intercept: $\frac{10}{3}$ Slope-intercept equation: $y = \frac{-1}{3}x + \frac{10}{3}$ $y = mx + b$ $3(y = \frac{-1}{3}x + \frac{10}{3})$ Standard form: $x + 3y = 10$ $3y = -x + 10$ $Ax + By = C$
Graph: 

Thursday

1) Simplify $x^3 \cdot x^4 \cdot x^5$ x^{12}	2) Simplify $(-15c^6d^2)(2cd^4)$ $-30c^7d^6$
3) Simplify $(x^{12})^2$ x^{24}	4) Simplify $(-x^7y^2)^5$ $-x^{35}y^{10}$
5) Multiply $-4n(n-1)$ $-4n^2 + 4n$	6) Multiply $(n-8)(n-6)$ $n^2 - 14n + 48$
7) Multiply $(5x-6)(x+3)$ $5x^2 + 9x - 18$	8) Multiply $(x+2)^2$ $x^2 + 4x + 4$
9) Factor $121x^2 - 9y^2$ $(11x-3y)(11x+3y)$	10) Factor $n^2 - 16n + 48$ $(n-12)(n-4)$
11) Factor $10x^2 + x - 2$ $(5x-2)(2x+1)$	12) Solve $h^2 = -3h + 54$ $h = -9, h = 6$
13) Solve $2(x-6) = 3x$ $x = -12$	14) Solve $5(2+n) = 3(n+6)$ $n = 4$
Given: $(3, -1), (6, 7)$ 15) Slope (m) = $\frac{8}{3}$ or $-\frac{8}{-3}$ 16) y-intercept: $(0, 9)$ 17) Slope-intercept equation: $y = \frac{8}{3}x + 9$ $y = mx + b$ 18) Standard form: $8x - 3y = -27$ $Ax + By = C$	19) Graph 