

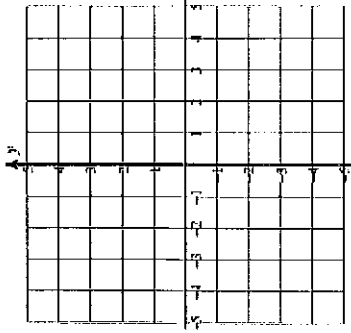
# ALGEBRA SPIRAL REVIEW

<p><b>MONDAY</b></p> <p><u>Interpret the graph.</u></p> <p style="text-align: center;">Distance from Ground Time</p> <p><u>Graph the situation.</u> A person leaves home, drives through town, then on the highway, and finally stops at a rest area.</p> <p><u>Simplify.</u>  <math>(3x^3y^2)(-6y^5)</math> _____  <math>(10g^3h^8v^6)(11gh^3)</math> _____</p>	<p><u>Determine if the relation is a function.</u></p> <p>_____</p> <p><u>Use the vertical line test to determine if the relation is a function.</u>  <math>(-2,7)(3,5)(9,5)(4,3)(8,7)</math> _____</p> <p><u>Write in scientific notation.</u>          6.7 _____          0.00000002 _____          48900 _____</p>	<p><u>Write a rule for the table.</u></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>x</th> <th>y</th> </tr> <tr> <td>-4</td> <td>-24</td> </tr> <tr> <td>-3</td> <td>-17</td> </tr> <tr> <td>-2</td> <td>-10</td> </tr> <tr> <td>-1</td> <td>-3</td> </tr> </table> <p><u>Use a function table to graph the equation.</u> <math>y=1/2x-3</math></p> <p>_____</p> <p><u>Factor the expression.</u>  <math>18a^2 - 12a + 2</math> _____  <math>32v^2 + 16v + 2</math> _____  <math>4k^2 - 32k + 224</math> _____</p>	x	y	-4	-24	-3	-17	-2	-10	-1	-3	<p><u>Complete.</u>  <math>m^2 + 3m - 10 = (m - 2)(m + \square)</math>  <math>v^2 - 2v - 24 = (v + 4)(v - \square)</math>  <math>k^2 - 8k - 9 = (k + 1)(k - \square)</math>  <math>q^2 + 3q - 18 = (q - 3)(q + \square)</math></p> <p><u>Factor the expression.</u>  <math>x^2 + 3x - 4</math> _____  <math>q^2 - 2q - 8</math> _____  <math>y^2 + y - 20</math> _____  <math>k^2 + 16k - 17</math> _____  <math>x^2 - 14x - 32</math> _____  <math>d^2 + 6d - 40</math> _____  <math>x^2 + 3x - 4</math> _____</p>
x	y												
-4	-24												
-3	-17												
-2	-10												
-1	-3												
<p><b>TUESDAY</b></p> <p><u>Find the x and y-intercepts of the lines.</u>  <math>6x+4y=12</math> _____  <math>7x+5y=42</math> _____</p> <p><u>Simplify the expression.</u>  <math>(8x^2 + 3x + 1)(3x^2 - 7x + 6)</math> _____  <math>(6x^2 + 6x + 2)(3x^2 + 5x + 7)</math> _____  <math>(3x + 4)(5x^2 - 6x - 6)</math> _____  <math>(5b - 6)(5b^2 + 4b - 2)</math> _____</p>	<p><u>Solve.</u>          The state fair is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 8 vans and 8 buses with 240 students. High School B rented and filled 4 vans and 1 bus with 54 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.</p> <p>Van _____ Bus _____</p>	<p><u>Find the indicated term.</u>          10<sup>th</sup> term of 2, 6, 18, 54, 162, ... _____          15<sup>th</sup> term of 5000, 500, 50, 5, 0.5, ... _____          8<sup>th</sup> term of -0.125, 0.25, -0.5, 1, -2, ... _____</p> <p><u>Write the equation of the line in point-slope form.</u>  <math>m=6</math> (3,-6) _____  <math>m=1/4</math> (-8,4) _____</p> <p><u>Write an equation in slope-intercept form.</u>          (12, 6) (3, 11) _____</p>	<p><u>Factor the expression.</u>  <math>k^2 + 16k - 17</math> _____  <math>a^2 - 2a - 35</math> _____  <math>y^2 - 8y + 15</math> _____  <math>x^2 - 4x - 45</math> _____  <math>c^2 + 11c + 18</math> _____  <math>x^2 + 21x + 100</math> _____  <math>a^2 - 2a - 35</math> _____  <math>r^2 + 4r + 3</math> _____  <math>y^2 + 6y + 8</math> _____</p>										

**Solve by graphing.**

$$y = 3x - 4$$

$$y = -\frac{1}{2}x + 3$$



**Use a graphing calculator to solve.**

12	16	18	21	25
55	61	76	102	265

**Solve, put answer in scientific notation.**

- $(7.1 \times 10^{-5})(6.7 \times 10^{-6})$  \_\_\_\_\_
- $(6 \times 10^3)(9.91 \times 10^0)$  \_\_\_\_\_
- $(2.32 \times 10^{-6})(4 \times 10^{-5})$  \_\_\_\_\_
- $(3.48 \times 10^3)(9.8 \times 10^4)$  \_\_\_\_\_
- $7.1 \times 10^6$  \_\_\_\_\_
- $8.2 \times 10^1$  \_\_\_\_\_
- $5.4 \times 10^{-1}$  \_\_\_\_\_
- $\frac{3.4 \times 10^1}{4 \times 10^4}$  \_\_\_\_\_
- $\frac{3.63 \times 10^{-4}}{9 \times 10^{-5}}$  \_\_\_\_\_
- $\frac{9.24 \times 10^{-6}}{}$  \_\_\_\_\_

**Solve using substitution.**

$$-5x + y = -3$$

$$3x - 8y = 24$$

( \_\_\_\_\_ )

$$x + 3y = 1$$

$$-3x - 3y = -15$$

( \_\_\_\_\_ )

**Solve using elimination.**

$$5x + 4y = -30$$

$$3x - 9y = -18$$

( \_\_\_\_\_ )

$$-7x - 8y = 9$$

$$-4x + 9y = -22$$

( \_\_\_\_\_ )

**Solve.**

Matt and Ming are selling fruit for a school fundraiser. Customers can buy small boxes of oranges and large boxes of oranges. Matt sold 3 small boxes of oranges and 14 large boxes of oranges for a total of \$203. Ming sold 11 small boxes of oranges and 11 large boxes of oranges for a total of \$220. Find the cost each of one small box of oranges and one large box of oranges.

Small: \_\_\_\_\_ Large: \_\_\_\_\_

**Simplify.**

$$(-2^2 x^3 y^4)(-3)^2 x^4 y^4$$

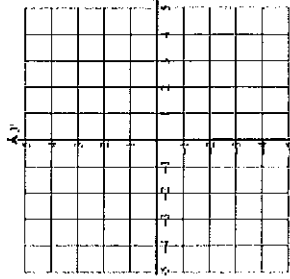
$$\frac{2x^4 y^{-4} z^3}{3x^2 y^{-3} z^4}$$

\_\_\_\_\_

**Graph the system of inequalities.**

$$y \leq -x - 2$$

$$y \geq -5x + 2$$



**Write each number in standard form.**

$$2.66 \times 10^4$$

$$8.3 \times 10^7$$

$$7.75 \times 10^{-1}$$

$$1.5 \times 10^{-2}$$

**Factor each expression.**

$$y^2 - 81$$

$$k^2 - 100$$

$$x^2 - 400$$

$$k^2 - 196$$

$$m^2 - 225$$

$$y^2 - 900$$

$$n^2 + 4n - 12$$

$$n^2 - 10n + 9$$

$$b^2 + 16b + 64$$

$$k^2 - 13k + 40$$

**Factor each expression.**

$$25g^2 - 30g + 9$$

$$x^2 - 4$$

$$r^2 - 144$$

$$w^2 - 256$$

$$25q^2 - 9$$

$$4m^2 - 81$$

$$81v^2 - 100$$

$$3m^2 - 12$$

$$b^2 + 8b + 7$$

$$n^2 - 11n + 10$$

$$m^2 + m - 90$$

$$a^2 + 11a + 18$$