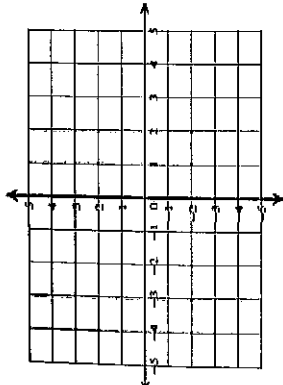


ALGEBRA SPIRAL REVIEW

<p>Interpret the graph. Average highest temperatures in Jamaica over a year</p> <p>Graph the situation. A person alternates between running and walking.</p> <p>Simplify. $a^7 \cdot a^{12}$ _____ $(2x^2)(4x^3y^2)$ _____ $(-2x^2z)(-4y^2z)(-3xyz)$ _____</p>	<p>Determine if the relation is a function.</p> <table border="0"> <tr> <td>Input 13</td> <td>Output 12</td> <td>Input 5</td> <td>Output -15</td> </tr> <tr> <td>0</td> <td>6</td> <td>6</td> <td>3</td> </tr> <tr> <td>8</td> <td>-5</td> <td>-6</td> <td>-2</td> </tr> <tr> <td>10</td> <td></td> <td></td> <td>12</td> </tr> </table> <p>Write in scientific notation. 45632 _____ 0.00003 _____ 853 _____ .1235 _____</p>	Input 13	Output 12	Input 5	Output -15	0	6	6	3	8	-5	-6	-2	10			12	<p>Write a rule for the table.</p> <table border="1"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>9</td> </tr> <tr> <td>6</td> <td>10</td> </tr> <tr> <td>8</td> <td>11</td> </tr> </tbody> </table> <p>Use a graph to write a linear function that relates y to x.</p> <p>Write an equation of a parallel line. _____ $y=3x+7$ (4,9) _____ Write an equation of a perpendicular line $y=5x-4$ (-5,6) _____</p>	x	y	4	9	6	10	8	11	<p>Factor the expression.</p> <p>$x^2 - 8x + 15$ _____ $m^2 + 8m + 12$ _____ $p^2 - 8p - 20$ _____ $x^2 - 16x + 64$ _____ $y^2 - 3y - 18$ _____ $x^2 - 10x + 24$ _____ $a^2 + 9a - 36$ _____ $w^2 - 12w - 45$ _____ $y^2 - y - 20$ _____ $x^2 - 11x + 28$ _____ $x^2 - 11x + 24$ _____ $x^2 + 8x + 15$ _____</p>
Input 13	Output 12	Input 5	Output -15																								
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<p>Find the x and y-intercepts of the lines. $2x + -8y = -10$ (____, ____) $3 = 7x + -5y$ (____, ____)</p> <p>Simplify the expression. $5x(6x^2 + 10)$ _____ $(x - 5)(2x + 13)$ _____ $(x + 3)(x^2 + 7x + 11)$ _____ $(3x + 5)(5x^2 + 4x + 11)$ _____</p>	<p>Solve. Kristin spent \$131 on shirts. Fancy shirts cost \$28 and plain shirts cost \$15. If she bought a total of 7 then how many of each kind did she buy? Fancy _____ Plain _____ There are 13 animals in the barn. Some are chickens and some are pigs. There are 40 legs in all. How many of each animal are there? Chickens _____ Pigs _____</p> <p>Solve. $(a^2 + a + 1) + (5a^2 - 8a + 20)$ _____ $(-5x^4 + x^2) - (x^5 + 8x^2 - x)$ _____</p>	<p>Find the next three terms. $-39, -33, -27, -21, \dots$ _____ $1 \frac{23}{5}, 15 \frac{43}{15}, 21 \frac{21}{5}, \dots$ _____ $17, 13, 9, 5, \dots$ _____</p> <p>Write an equation in point-slope form. $(-5, 5)m = \frac{1}{2}$ _____ $(1, -3)m = -12$ _____ $(-7, -6)m = -\frac{2}{3}$ _____</p> <p>Write an equation in slope-intercept form. $(13, -14)$ $(-6, 21)$ _____</p>	<p>Factor each expression.</p> <p>$25g^2 - 30g \div 9$ _____ $x^2 - 4$ _____ $r^2 - 144$ _____ $w^2 - 256$ _____ $25q^2 - 9$ _____ $4m^2 - 81$ _____ $81v^2 - 100$ _____ $3m^2 - 12$ _____ $b^2 + 8b + 7$ _____ $n^2 - 11n + 10$ _____ $m^2 + m - 90$ _____</p>																								

Solve by graphing.

$y = -3x + 4$
 $y = 3x - 2$



Write each number in standard form.

- 6.17×10^3 _____
- 7.31×10^6 _____
- 5.4×10^{-8} _____
- 6.7×10^{-3} _____

Solve using substitution.

$x + 7y = 0$ _____
 $2x - 8y = 22$ _____

Solve using elimination.

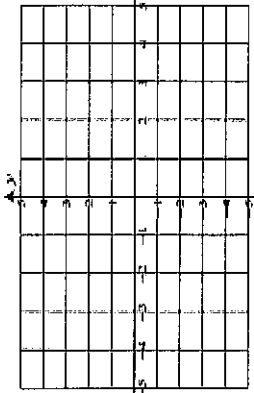
$8x - 6y = -20$ _____
 $-16x + 7y = 30$ _____

Determine if the system has one solution, no solution, or IMS.

$4y + 9 = 4y - 7$ _____
 $3c + 2 = 3c + 2$ _____

Graph the system of inequalities.

$y \geq \frac{2}{3}x + 3$
 $y > -\frac{4}{3}x - 3$



Factor the expression.

$90x^2y^2z^4 + 45xy^2z^2$ _____
 $32a^3b - 48a^2b^2$ _____
 $14s^3t^2 - 28s^2t^4$ _____

Factor each expression.

$y^2 - 81$ _____
 $k^2 - 100$ _____
 $x^2 - 400$ _____
 $k^2 - 196$ _____
 $m^2 - 225$ _____
 $y^2 - 900$ _____
 $n^2 + 4n - 12$ _____
 $n^2 - 10n + 9$ _____
 $b^2 + 16b + 64$ _____
 $k^2 - 13k + 40$ _____

Solve, put answer in scientific notation.

- $(3.7 \times 10^4) \times (9.1 \times 10^2)$ _____
- $(-4.4 \times 10^3) \times (6.0 \times 10^9)$ _____
- $(9.6 \times 10^{-5}) \times (7.1 \times 10^{-4})$ _____
- $(5.8 \times 10^8) \times (3.5 \times 10^{-3})$ _____
- $(8.9 \times 10^5) / (1.8 \times 10^2)$ _____
- $(-3.7 \times 10^9) / (6.4 \times 10^7)$ _____
- $\frac{4.2x^4y^{14}}{0.6x^9y^5}$ _____

Write a rule for each sequence, and determine if it is geometric, arithmetic, or neither.

- 9, -109, -209, -309, ... _____
- 28, 18, 8, -2, ... _____
- 16, -6, 4, 14, ... _____

Tell if the lines are parallel or perpendicular.

$y = 4x + 6$; $y = 4x - 7$ _____
 $y = 7$; $y = 5$ _____
 $y = 1/4x$; $y = -4x + 6$ _____

Evaluate the expressions.

$p^3 + 10 + m$; use $m = 9$, and $p = 3$ _____
 $y - (z + z^2)$; use $y = 10$, and $z = 2$ _____

Simplify the expressions.

$(-4b^5 + 3b^3 - b + 10) + (3b^5 - b^3 + b - 4)$ _____
 $(2r^3 - 4r^2 + 9r - 7) - (r^3 + r^2 - 3r + 1)$ _____
 $5m(3m + m^2)$ _____
 $-2w^2(4w - 10 + 3w^2)$ _____
 $(x + 3)(x + 5)$ _____
 $(2b + 5)(3b - 2)$ _____
 $(y - 4)(y^2 - 5y - 2)$ _____
 $(4g^2 - 5h^4)(4g^2 + 5h^4)$ _____

Factor the expression.

$9x^4 + 12x^3 + 6x$ _____
 $2k^4 + 4k^3 - 6k - 8$ _____
 $18d^5 + 6d^4 + 9d^3$ _____
 $w^2 - 5w - 14$ _____
 $g^2 + 10g + 25$ _____