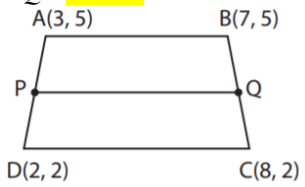
Answer Key - Math 1 Weekly spiral Review Week - 6

Monday	Tuesday	Wednesday	Thursday
Simplify the expressions: $(12a^5 - 6a - 10a^3) - (10a - 2a^5 - 14a^4)$ **$14a^5 + 14a^4 - 10a^3 - 16a$** $(-x^4 + 13x^5 + 6x^3) + (6x^3 + 5x^5 + 7x^4)$ **$18x^5 + 6x^4 + 12x^3$**		The vertices of parallelogram *CDEH* are (-5, 5), D(2, 5), E(-1,-1) and H(-8, -1). What are the coordinates of *P*, the point of intersection of diagonals $\overline{CE}$ and $\overline{DH}$? **(-3, 2)**	**Find the product:** $6v(2v + 3)$ **$12v^2 + 18v$** $(2n + 2)(6n + 1)$ **$12n^2 + 14n + 2$**
Kin is painting two walls of her bedroom. The area of one wall can be modeled by $3x^2 + 14$, and the area of the other wall can be modeled by $2x - 3$. What is the total area of the two walls? **$3x^2 + 2x + 11$**	A walkway surrounds a rectangular garden. The width of the garden is 8 feet, and the length is 6 feet. The width x of the walkway around the garden is the same on every side. Write an expression that represents the total area of the garden and walkway. **$4x^2 + 28x + 48$**	P and Q are the midpoints of $\overline{AD}$ and $\overline{BC}$. Find the length of $\overline{PQ}$. **5 units** 	You have a coupon for $8 off an oil change for your car. An oil change costs $19.95, and a new oil filter costs $4.95. You use the coupon for an oil change and filter. Before adding tax, how much should you pay? **$16.90**
Find the product: $(p - 1)^2$ **$p^2 - 2p + 1$** $(x - 3)(x + 3)$ **$x^2 - 9$**	Find the point of intersection of diagonals of the parallelogram whose vertices are (-3, 2), (-4,4), (1, 4) and (2, 2). **(-1, 3)**	In a pet store, 15% of the animals are hamsters. If the store has 40 animals, how many of them are hamsters? **6**	The width of a rectangle is represented by $5x + 2y$, and the length is represented by $6y - 2x$. Write a polynomial that represents the perimeter. **$6x + 16y$**
Simplify: $3(5x^2 + 2x - 4) - x(7x^2 + 2x - 3)$ **$-7x^3 + 13x^2 + 9x - 12$** $15t(10y^3t^5 + 5y^2t) - 2y(yt^2 + 4y^2)$ **$150y^3t^6 + 73y^2t^2 - 8y^3$**		**Find the sum or difference:** $(5x^2 - 3x + 4) + (6x - 3x^2 - 3)$ **$2x^2 + 3x + 1$** $(4x^3 - 3x^2 + 6x - 4) - (-2x^3 + x^2 - 2)$ **$6x^3 - 4x^2 + 6x - 2$**	
Find the product: $(x + 5)(x + 2)$ **$x^2 + 7x + 10$** $(4n + 3)(n + 9)$ **$4n^2 + 39n + 27$**	**Find the product:** $(3x + 5)^2$ **$9x^2 + 30x + 25$** $(8c + 3d)^2$ **$64c^2 + 48cd + 9d^2$**	Write an expression that represents the area of a square that has a side length of $3x + 12$ units. **$(9x^2 + 72x + 144)$ units^2**	The scale on a map shows that 1.5 cm is equal to 40 miles. If the distance on the map between two cities is 8 cm., about how many miles apart are the cities? **213 miles**
The Loft Theater has a center seating section with $3c + 8$ rows and $4c - 1$ seats in each row. Write an expression for the total number of seats in the center section. **$12c^2 + 29c - 8$**	$\triangle ABC$ has vertices A(1, 3), B(-2, 5), and C(8, 8). Find the perimeter of the triangle to the nearest tenth. $\sqrt{13} + \sqrt{109} + \sqrt{74}$; **22.6 units**	Quadrilateral *JKLM* has vertices J(-3,-4), K(-1, 4), L(4,5) and M(6, -5). Find the perimeter of the quadrilateral to the nearest tenth. $\sqrt{68} + \sqrt{26} + \sqrt{104} + \sqrt{82}$; **32.6 units**	Find the distance between (3, -6) and (1, 4) on a coordinate grid. Round to the nearest tenth. **10.2**
Joe and Josh each want to buy a video game. Joe has $14 and saves $10 a week. Josh has $26 and saves $7 a week. In how many weeks till they have the same amount? **4 weeks**	Use substitution to solve the system of equations: $y = -4x + 12$ $2x + y = 2$ **(5, -8)**	Use substitution to solve the system of equations: $x - 2y = -3$ $3x + 5y = 24$ **(3, 3)**	An office building has two elevators. One elevator starts out on the 4th floor, 35 feet above the ground, and is descending at a rate of 2.2 feet per second. The other elevator starts out at ground level and is rising at a rate of 1.7 feet per second. Write a system of equations to represent the situation. **$y = 35 - 2.2x$; $y = 1.7x$**
Solve the system by graphing: **(3, 1)** $y = -3x + 10$ $y = x - 2$	The perimeter of two similar polygons are 250 centimeters and 300 centimeters, respectively. What is the scale factor between the two polygons? **5/6**	A local charity has 60 volunteers. The ratio of boys to girls is 7:5. Find the number of boy and the number of girl volunteers. **25 girls and 35 boys**	