

FARMINGDALE UFSD								
Grade 8 Mathematics Curriculum - Scope and Sequence September 2009								
Director: Gerardine M. Johnson-Carpenter, Ed.D.								
Textbook: Pre-Algebra Glencoe, 2006								
DATE	Lesson	PI	Glencoe	Macmillan/ McGraw Hill	Amsco Text	Chapter Resource	5MT	NY Review Series
	UNIT I: PERCENTS - 15 days							
	1. How do we change decimals and fractions into percents?		281-285	271		314--318	6--4	105-112
	2. How do we estimate percents?	8N4	286-287			319--323	6--5	105-112
	3. How do we justify the reasonableness of answers using estimation?	8N5	293-297			324--328	6--6	105-112
	4. How do we use percent less than 1 and greater than 100?	8N2	283	273		314--318	6--4	105-112
	5. How do we find the percent of increase or decrease?	8N3	304-308	307		334--338		105-112
	6. Practice finding the percent of increase or decrease.	8N3	304-308					105-112
	7. How do we find discount and sale price?	8N3		309				105-112
	8. How do we find tax and final price?	8N3					6--8	105-112
	9. How do we find discount rate?		299	309		329--333	6--7	105-112
	10. How do we find commission and commission rate?	8N3	301	311				105-112
	11. Practice finding commission.	8N3	301	311				105-112
	12. How do we find simple interest?	8N3	299-300	313				105-112
	13. Practice finding simple interest.	8N3	299-300	313				105-112
	14. Review							
	15. Test							

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	Unit II: SIGNED NUMBERS - 11 days							
	1. What are integers? How do we compare integers? How do we use a number line? How do we find absolute value of integers?	S	56-60, 68,90	406-415, 493		57-61	2--1	
	2. How do we add and subtract integers?	S	70-72,74 82,84,91, 118, 199 327, 385	408-411		62-66 67-71	2--2 2--3	
	3. How do we multiply and divide integers?	S	75-84, 91- 92, 97, 114, 152, 199, 327	412-415		72-76 77-81	2--4 2--5	
	4. How do we evaluate expressions with integers?	8N1	18-21	428-429		11--15	1--2	
	5. Review evaluating expressions with integers.	8N1	154	428-429		11--15	1--2	
	6. How do we use integers as exponents?	8N1	144, 155 181-185	424-425		170-174	4--2	106-107
	7. Review use of integers as exponents.	8N1	187	424-425		195-199	4--7	
	8. What is scientific notation?	S	186-190, 194-195, 204, 268, 733	426-427		195-199	4--7	
	9. What are number properties?		23-27	416-417	208-209	16-20	1--4	
	10. Review							
	11. Test							
	UNIT III: POLYNOMIALS - 11 days							
	1. How do we add and subtract monomials?	S	150		232-237	165-169	4--1	1, 163-165

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	2. How do we multiply and divide monomials?	8A3	175-178		238-246	190-194	4--6	168-170
	3. How do we identify and classify polynomials?	8A4	669-673		256-257	733-737	13--1	
	4. How do we add polynomials?	8A4	674-677		256-261	738-742	13--2	158-160 163-165 168-170
	5. How do we subtract polynomials?	8A4	678-681		261-264	743-747	13--3	
	6. How do we multiply a polynomial by a monomial?	8A5	686-686		267-270	748-752	13--4	163
	7. How do we multiply binomials?	8A5			267-270			165
	8. Practice multiplying binomials and trinomials by a monomial.	8A5	682-686		267-270	748-752	13--4	164
	9. How do we divide a polynomial by a monomial?	8A6			270-272			
	10. Review							
	11. Test							
	UNIT IV: FACTORING - 9 days							
	1. How do we find the greatest common factor (GCF) and prime factors? How do we factor out a common monomial from a polynomial?	8A7	164-168		411-414	180-184	4--4	174-178 181-182
	2. Practice factoring out a common term.	8A7	164-168		411-414	164-168	4--4	
	3. How do we factor the difference of two perfect squares?	8A9			416-420			
	4. Practice factoring the difference of two perfect squares.	8A9			416-420			

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	5. How do we factor a trinomial in the form $ax^2 + bx + c$? (a = 1, and c having no more than 3 sets of factors.)	8A8			423-427			181-185
	6. Practice factoring trinomials.	8A8			423-427			181-185
	7. Practice factoring all types of polynomials.							
	8. Review							
	9. Test							
	UNIT V: ALGEBRA, EQUATIONS, AND INEQUALITIES - 8 days							
	1. How do we translate verbal expressions and algebraic expressions?	8A2	18-20	90-91	70	11--15	1--3	136
	2. How do we translate verbal sentences into algebraic inequalities?	8A1	342-344		304-306	377-381	7--3	131
	3. Practice solving one-step and two-step equations.	S	31, 118			21-25 122-126	1--5 3--4	6
	4. How do we solve equations/proportions to convert to equivalent measurement systems (also allow Fahrenheit to Celsius and vice versa).	8A11	270-274	89-290, 293-297		304-308	6--2	66, 255
	5. Practice solving equations/proportions.	8A11	270-274	89-290, 293-297		304-308	6--2	
	6. How do we evaluate using the Pythagorean theorem?	S7	460-463	511		509-513	9--5	42
	7. Review							
	8. Test							

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	UNIT VI: PATTERNS, FUNCTIONS, RELATIONS, AND COORDINATE GEOMETRY - 10 days							
	1. How do we understand that a data set can be represented in multiple ways: arithmetically, algebraically, and graphically?	8A14	28-32	92, 126		21-25	1--5	141-145
	2. Practice	8A14	28-32	92, 126		21-25	1--5	
	3. How do we find a set of ordered pairs to satisfy a given linear numerical pattern (expressed algebraically); then plot the ordered pairs and draw the straight line?	8A15	33-38	537, 545	578-585	26-30	1--6	146
	4. Practice finding sets of ordered pairs and plotting.	8A15	33-38	537, 545	578-585	26-30	1--6	146
	5. How do we define and use correct terminology when referring to function (domain and range)?	8A16	368-373 380	536		417-421	8--1	28-31, 146 186-188
	6. Practice interpreting representations.	8A18	368-373	545	578-585	417-421	8--1	
	7. How do we graph a linear equation using a table of values?	8G16	374-379	545	578-585	422-426	8--2	146-148
	8. Practice graphing linear equations.	8G16	374-379	545	578-585	422-426	8--2	146-148
	9. Review							
	10. Test							
	UNIT VII: TRANSFORMATION GEOMETRY - 10 days							
	1. How do we describe and identify transformations in the plane, using proper function notation (rotations, reflections, translations, and dilations)?	8G7	505-512	538-541	607-614	559-563	10--3	218-223

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	2. How do we draw the image of a figure under rotations of 90 and 180 degrees?	8G8	505-512	538-541	607-614	559-563	10--3	224-228
	3. Practice rotations.	8G8	505-512	538-541	607-614	559-563	10--3	224-228
	4. How do we draw the image of a figure under a reflection over a given line?	8G9	505-512	538-541	607-614	559-563	10--3	229-233
	5. Practice reflections.	8G9	505-512	538-541	607-614	559-563	10--3	229-223
	6. How do we draw the image of a figure under a translation?	8G10	505-512	538-541	607-614	559-563	10--3	236-240
	7. How do we draw the image of a figure under dilation?	8G11	505-512	538-541	607-614	559-563	10--3	241-245
	8. How do we identify the properties preserved and not preserved under a reflection, rotation, translation, and dilation?	8G12	505-512				10--3	246-250
	9. Review							
	10. Test							
	UNIT VIII: GEOMETRY - 10 days							
	1. How do we identify pairs of vertical angles as congruent?	8G1	492-497	218-219	317-324	549-553	10--1	193-197
	2. How do we identify pairs of supplementary and complementary angles?	8G2	492-497	218-219	317-324	549-553	10--1	198-201
	3. How do we calculate the missing angles in supplementary or complementary pairs?	8G3	492-497	218-219	317-324	549-553	10--1	198-203
	4. How do we determine angle pair relationships when given two parallel lines cut by a transversal?	8G4	492-497	218-219	325-330	549-553	10--1	204-215

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	5. How do we calculate the missing angle measurements when given two parallel lines cut by a transversal?	8G5	492-497	218-219	325-330	549-553	10--1	204-215
	6. How do we apply algebra to determine the measure of angles formed by or contained in parallel lines cut by a transversal and by intersecting lines?	8A10	492-497	218-219	325-330	549-553	10--1	204-215
	7. Practice algebra with parallel lines.	8A10	492-497	218-219	325-330	549-553	10--1	193-215
	8. How do we calculate the missing angle measurements when given two intersecting lines and an angle?	8G6	492-497	218-219	317-324	549-553	10--1	193-215
	9. Review							
	10. Test							
	UNIT V: ALGEBRA, EQUATIONS, AND INEQUALITIES -9 days							
	1. Practice solving one-step and two-step inequalities.	S	345-359	103	300-303	387-396	7--4	131
	2. How do we solve linear inequalities by combining like terms, using the distributive property, or moving variables to one side of the inequality (include multiplication or division of inequalities by a negative number)?	8A13	101, 355-358	103	300-303	392-396	7--6	131
	3. Practice solving linear inequalities.	8A13	101, 355-358	103	300-303	392-396	7--6	131
	4. Practice solving linear inequalities.	8A13	101, 355-358	103	300-303	392-396	7--6	131
	5. How do we solve multi-step inequalities (positive coefficients only) and graph the solution set on a number line?	8A12	343-359	103	303	377-381	7--3	135
	6. Practice solving multi-step inequalities.	8A12	343-359	103	303	377-381	7--3	135

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	7. Practice solving multi-step inequalities.	8A12	343-359	103	303	377-381	7--3	135
	8. Review							
	9. Test							
	UNIT VI: PATTERNS, FUNCTIONS, RELATIONS, AND COORDINATE GEOMETRY - 14 days							
	1. How do we determine if a relation is a function?	8A17	368-373	536		417-421	8--1	28-32 146-147
	2. How do we interpret multiple representations using equations, table of values, and graphs?	8A18	374-379	545	578-585	422-426	8--2	265-275 282
	3. How do we determine a slope of a line and the y-intercept from a graph?	8G17	388-393	555	601-603	432-436	8--4	
	4. Practice y-intercept.	8G17	381-385	555	601-603	427-431	8--3	
	5. How do we graph a linear equation using the slope-intercept method ($y = mx + b$)	8G18	398-403	553	596-601	442-446	8--6	147
	6. Practice $y = mx + b$.	8G18	398-403	553	596-601	442-446	8--6	
	7. How do we determine the slope of a line?	8G13	386-391	555	587-593	432-436	8--4	
	8. Practice determining slope of a line.	8G13	386-391	555	587-593	432-436	8--4	
	9. How do we determine the y-intercept of a line?	8G14	381-385	553	7-593, 596-6	427-431	8--3	
	10. Practice y-intercept.	8G14	381-385	553	7-593, 596-6	427-431	8--3	
	11. How do we determine the equation of a line given the slope and y-intercept.	8G15	404-408	553, 555	601-603	447-451	8--7	
	12. Practice determining the equation of the line.	8G15	404-408	553,555	601-603	447-451	8--7	

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	13. Review							
	14. Test							
	UNIT VI: PATTERNS, FUNCTIONS, RELATIONS, AND COORDINATE GEOMETRY - 10 days							
	1. How do we solve systems of equations graphically (only linear, integral solutions, $y = mx + b$ format)?	8A19	414-418	557	615-620	457-461	8--9	
	2. Practice systems of equation.	8A19	414-418	557	615-620	457-461	8--9	
	3. How do we graph the solution set of an inequality on a number line?	8A20			300-303			
	4. Practice graphing on a number line.	8A20			300-303			131-135, 192, 265, 279
	5. How do we distinguish between linear and nonlinear equations $ax^2 + bx + c$; $a = 1$ (only graphically)	8A21	687-691		702-705	753-759	13--5	149-158
	6. How do we graph quadratic equations from a table of values (using a calculator)?	8A22	692-697		702-705	758-762	13--6	186-191 298
	7. Practice quadratic equations.	8A22	692-697		702-705	758-762	13--6	
	8. Practice quadratic equations.	8A22	692-697		702-705	758-762	13--6	
	9. Review							
	10. Test							

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	May / June							
	UNIT IX: CONSTRUCTIONS / FUNCTIONS REVIEW							
	8 days							
	1. How do we construct a segment congruent to a segment?	8G19	498-499	214-219		549-553	10--1	
	2. How do we construct an angle congruent to an angle?	8G19	498-499	214-219		549-553	10--1	
	3. How do we construct a perpendicular bisector?	8G19	498-499	214-219		549-553	10--1	
	4. How do we construct an angle bisector?	8G19	498-499	214-219		549-553	10--1	
	5. Review with straight edge and compass.							
	6. Define and use correct terminology when referring to fuction (domain and range)	8A17	368-373	536		417-421	8--1	28-32 146-147
	7. Review how to determine if a relation is a function	8A17	368-373	536		417-421	8--1	28-32 146-147
	8. Review							
	9. Test							
	Key:							
	Glencoe Glencoe Textbook <i>Pre-Algebra 2006</i>							
	MacMillan/McGraw Hill Textbook <i>Mathematics In Action 8</i>							
	Amsco Text: <i>Integrated Mathematics Course I</i>							
	5MT: <i>5 Minute Transparencies</i> from Glencoe							
	NY Review Series: <i>New York Review Series</i> by Glencoe							

