



COURSE 1

# Core-Plus Mathematics

Contemporary Mathematics in Context

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STANDARDS	PAGE REFERENCES
<b>Algebra I</b>	
<b>Number and Operations</b>	
<b>1. Understand numbers, ways of representing numbers, relationships among numbers and number systems</b>	
<b>A Read, write and compare numbers</b>	
compare and order rational and irrational numbers, including finding their approximate locations on a number line	<b>Student Edition:</b> 549 #5, 584 <i>On Your Own</i> 46 #31, 175 #14, 263 #31, 351 #36, 583 #25 <b>Teacher Guide:</b> CYU T107; IN T175; OYO T351, T549
<b>B Represent and use rational numbers</b>	
use real numbers and various models, drawing, etc. to solve problems.	<b>Student Edition:</b> 40, 57, 127, 155, 159, 201, 235 <i>Summarize the Mathematics</i> 122 <b>Teacher Guide:</b> IN T126; PMD T122A-T122B

STANDARDS	PAGE REFERENCES
<b>C Compose and decompose numbers</b>	
*use a variety of representations to demonstrate an understanding of very large and very small numbers	<b>Student Edition:</b> 28, 30 #10, 36, 489 #27 <i>On Your Own</i> 46 #29, 142 #29, 169 #4, 346 #22-#23, 525 #32, 583 #25 <b>Teacher's Guide:</b> T28, T570; CYU T31, T218; OYO T36, T46, T140, T142, T169, T346, T525
<b>D Classify and describe numeric relationships</b>	
<b>2. Understand meanings of operations and how they relate to one another</b>	
<b>A Represent operations</b>	
<b>B Describe effects of operations</b>	
*describe the effects of operations, such as multiplication, division, and computing powers and roots on the magnitude of quantities	<b>Student Edition:</b> 32, 53, 192 #1 <i>On Your Own</i> 45 #26, 62, 67 #31 <i>Summarize the Mathematics</i> 31, 55, 193 <b>Teacher's Guide:</b> T85; OYO T100, T321 #43; PMD T31A-T31B; SM T31, T193
<b>C Apply properties of operations</b>	
<b>D Apply operations on real and complex numbers</b>	
*apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases	<b>Student Edition:</b> 28 #3-#4, 29 #8, 32-34, 107, 151-155, 157-167 <i>Check Your Understanding</i> 156, 161, 167 <i>On Your Own</i> 3-39, 42-45, 168-183, 184 #19, 352 #39, 423 #30 <i>Summarize the Mathematics</i> 160 <i>Think About This Situation</i> 104, 151 <b>Teacher's Guide:</b> CYU T167; IN T44, T171, T172; STM T161; TS T104, T151
<b>3. Compute fluently and make reasonable estimates</b>	
<b>A Describe or represent mental strategies</b>	
<b>B Develop and demonstrate fluency</b>	
<b>C Compute problems</b>	

STANDARDS	PAGE REFERENCES
<b>D Estimate and justify solutions</b>	
*judge the reasonableness of numerical computations and their results	<b>Student Edition:</b> 159, 171, 176, 195, 198, 207, 226, 231 #29 <i>Summarize the Mathematics</i> 223 <i>Think About This Situation</i> 104
<b>E Use proportional reasoning</b>	
*solve problems involving proportions	<b>Student Edition:</b> 555-556 #6 <i>On Your Own</i> 91 #2, 99#21c, 130 #3, 257 #13b-d <b>Teacher's Guide:</b> T556; OYO T99, T130, T257
<b>Algebraic Relationships</b>	
<b>1. Understand patterns, relations and functions</b>	
<b>A Recognize and extend patterns</b>	
<b>B Create and analyze patterns</b>	
generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions	<b>Student Edition:</b> <i>On Your Own</i> 60 #8, 169 #3, 172 <i>Summarize the Mathematics</i> 55, 72 <b>Teacher's Guide:</b> IN T172; SM T58B, T72
<b>C Classify objects and representations</b>	
compare and contrast various forms of <u>representations</u> of patterns	<b>Student Edition:</b> 71, 152-154, 157-160, 161-167, 192 #4, 217-218 <i>On Your Own</i> 65 #25, 168 #1, 170, 175 206 #17, 224 #1-#2 <b>Teacher's Guide:</b> T152-T154, T157-T160
<b>D Identify and compare functions</b>	
understand and compare the properties of <u>linear</u> and <u>nonlinear</u> functions	<b>Student Edition:</b> 188-194, 189, 234 #4, 468-469, 471, 481, 511-515, 517-519 <b>Teacher Guide:</b> IN T189; TS T511

STANDARDS	PAGE REFERENCES
<b>E Describe the effects of parameter changes</b>	
describe the effects of <u>parameter changes</u> on <u>linear</u> , <u>exponential growth/decay</u> and <u>quadratic</u> functions including intercepts	<b>Student Edition:</b> 34 #4, 49 #1-#4, 152-154, 159 <i>On Your Own</i> 24 #20-#23, 170, 184 #40 <i>Summarize the Mathematics</i> 156 <i>Think About This Situation</i> 151 <b>Teacher's Guide:</b> T159; SM T156; TS T151
<b>2. Represent and analyze mathematical situations and structures using algebraic symbols</b>	
<b>A Represent mathematical situations</b>	
use <u>symbolic algebra</u> to represent and solve problems that involve linear and quadratic relationships including equations and inequalities	<b>Student Edition:</b> 152-155, 157-160, 188-194, 198, 468-469, 471, 481, 495-498, 510-515, 517-519 <i>Summarize the Mathematics</i> 156, 160, 498, 529 <b>Teacher's Guide:</b> T234, T474; IN T189; SM T160, T190B, T498, T517, T529; TS T511
<b>B Describe and use mathematical manipulation</b>	
describe and use algebraic manipulations, including factoring and rules of integer exponents and apply <u>properties of exponents</u> (including order of operations) to simplify expressions	<b>Student Edition:</b> 218-219, 221-222, 475-476, 496 <i>Check Your Understanding</i> 498 <i>On Your Own</i> 225 #6, 228 #18, 501 #4-#7 <i>Summarize the Mathematics</i> 218 <b>Teacher's Guide:</b> T475-T476; CYU T223; I T219
<b>C Utilize equivalent forms</b>	
use and solve equivalent forms of equations (linear, absolute value, and quadratic)	<b>Student Edition:</b> 189-190, 196, 197, 203 #8, 234 #4, 468-469, 481, 487-488 #23, 508 #26, 511-515, 517-519, 549 #25 <i>Summarize the Mathematics</i> 190, 196 <b>Teacher Guide:</b> IN T189; OYO T487-T488; TS T511
<b>D Utilize systems</b>	
use and solve systems of linear equations or inequalities with 2 variables	<b>Student Edition:</b> 199, 204 #12, 205 #13, 208 #24, 211 #32, 236 #7 <i>On Your Own</i> 204 #12, 205 #13, 208 #24, 211 #32 <i>Summarize the Mathematics</i> 200 <b>Teacher's Guide:</b> T199; OYO T204 #12

STANDARDS	PAGE REFERENCES
<b>3. Use mathematical models to represent and understand quantitative relationships</b>	
<b>A Use mathematical models</b>	
identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem	<b>Student Edition:</b> 152-153 #2, 159 #3c, #4c, 162-166, 178 #24, 188, 204 #12, 210 #29, 295-296, 298-299, 327, 329-330, 464-466, 470  <b>Teacher's Guide:</b> STM T167
<b>4. Analyze change in various contexts</b>	
<b>A Analyze change</b>	
analyze linear and quadratic functions by investigating rates of change, intercepts and zeros	<b>Student Edition:</b> 28-29, 151-155, 159, 166-167 #8 <i>On Your Own</i> 24 #20-#23, 170, 184 #40 <i>Check Your Understanding</i> 156, 194  <b>Teacher's Guide:</b> T28-T29, T159; CU T194
<b>Geometric and Spatial Relationships</b>	
<b>1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric</b>	
<b>A Describe and use geometric relationships</b>	
<b>B Apply geometric relationships</b>	
*apply geometric properties such as similarity and angle relationship to solve multi-step problems in 2 dimensions	<b>Student Edition:</b> 285 #26, 371 #4, 374, 376-377 #5, 392 #21, 401, 404-407, 413 #3, 524 #31c, 585 #31 <i>Summarize the Mathematics</i> 377, 406  <b>Teacher's Guide:</b> I T374; OYO T523; SM T377, T406
<b>C Compose and decompose shapes</b>	
<b>2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems</b>	
<b>A Use coordinate systems</b>	
<b>3. Apply transformations and use symmetry to analyze mathematical situations</b>	
<b>A Use transformations on objects</b>	
<b>B Use transformations on functions</b>	
<b>C Use symmetry</b>	

STANDARDS	PAGE REFERENCES
<b>4. Use visualization, spatial reasoning and geometric modeling to solve problems</b>	
<b>A Recognize and draw three-dimensional representations</b>	
<b>B Draw and use visual models</b>	
*draw or use <u>visual models</u> to represent and solve problems	<b>Student Edition:</b> 60 #6-#7, 61 #9, 111, 173 #18, 261, 285 #23, 294, 395 #31, 486 #19, 585 #30 <i>Summarize the Mathematics</i> 468 <b>Teacher Guide:</b> T585 #30
<b>Measurement</b>	
<b>1. Understand measurable attributes of objects and the units, systems and processes of measurement</b>	
<b>A Determine unit of measurement</b>	
<b>B Identify equivalent measures</b>	
<b>C Tell and use units of time</b>	
<b>D Count and compute money</b>	
<b>2. Apply appropriate techniques, tools and formulas to determine measurements</b>	
<b>A Use standard or non-standard measurement</b>	
<b>B Use angle measurement</b>	
<b>C Apply geometric measurements</b>	
<b>D Analyze precision</b>	
*describe the effects of operations, such as multiplication, division and computing powers and roots on magnitudes of quantities and effects of computation on <u>precision</u> which include the judging of reasonable of numerical computations and their results	<b>Student Edition:</b> 80 #7, 82, 395 #30, 401 #2d, #3 <b>Teacher's Guide:</b> T395 #30, T413 #33, T415 #7, T418 #14d, T521B
<b>E Use relationships within a measurement system</b>	
*use <u>unit analysis</u> to solve problems	<b>Student Edition:</b> 16 #6, 17 #8, 19 #12, 23 #19, 24 #23, 28-29 #1-#5, 45 #27,46 #29, 62, 180 #31, 361 #1, 395 #30, 397 <b>Teacher's Guide:</b> T45 #27, T49 #5; STM T51B

STANDARDS	PAGE REFERENCES
<b>Data and Probability</b>	
<b>1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them</b>	
<b>A Formulate questions</b>	
formulate questions and collect data about a characteristic which include <u>sample spaces</u> and distributions	<b>Student Edition:</b> 12 #5, 100 #23, 537, 555-557, 562, 564, 566 #4, 571, 573 #3, 578-579 #17 <i>Think About This Situation</i> 552 <b>Teacher Guide:</b> T556, T564 #a; STM T557
<b>B Classify and organize data</b>	
<b>C Represent and interpret data</b>	
select and use appropriate graphical representation of data and given <u>one-variable quantitative data</u> , display the distribution and describe its shape	<b>Student Edition:</b> 76 #1, 79 #4d, 82, 91 #4c, 99 #21a
<b>2. Select and use appropriate statistical methods to analyze data</b>	
<b>A Describe and analyze data</b>	
apply statistical measures of center to solve problems	<b>Student Edition:</b> 76-77, 82, 91 #4c, 96 #15, 99 #21a, 165-166, 173 #12, 176 #19, 178, 330, 534-535 #4-#8, 542 #2, 544-545 #7-#9, 548 #19 <b>Teacher's Guide:</b> T165; STM T331, T536
<b>B Compare data representations</b>	
<b>C Represent data algebraically</b>	
given a scatterplot, determine an equation for <u>a line of best fit</u>	<b>Student Edition:</b> 161-167, 233 <i>On Your Own</i> 167, 173-174, 176 #19, 180 #32 <i>Summarize the Mathematics</i> 236a <b>Teacher's Guide:</b> T161-T167, T233; OYO T173-T174; SM T161, T167

STANDARDS	PAGE REFERENCES
<b>3. Develop and evaluate inferences and predictions that are based on data</b>	
<b>A Develop and evaluate inferences</b>	
make <u>conjectures</u> about possible relationships between 2 characteristics of a sample on the basis of scatter plots of the data	<b>Student Edition:</b> 5 #1, 162-165 <i>Check Your Understanding</i> 7-8 <i>On Your Own</i> 18-19 #9, 174, 180 #32, 181 #33 <b>Teacher's Guide:</b> T162-T165
<b>B Analyze basic statistical techniques</b>	
<b>4. Understand and apply basic concepts of probability</b>	
<b>A Apply basic concepts of probability</b>	
<b>B Use and describe compound events</b>	
Geometry	
Number and Operations	
<b>1. Understand numbers, ways of representing numbers, relationships among numbers and number systems</b>	
<b>A Read, write and compare numbers</b>	
compare and order rational and irrational numbers, including finding their approximate locations on a number line	<b>Student Edition:</b> 549 #5, 584 <i>On Your Own</i> 46 #31, 175 #14, 263 #31, 351 #36, 583 #25 <b>Teacher Guide:</b> CYU T107; IN T175; OYO T351, T549
<b>B Represent and use rational numbers</b>	
use real numbers and various models, drawing, etc. to solve problems.	<b>Student Edition:</b> 40, 57, 127, 155, 159, 201, 235 <i>Summarize the Mathematics</i> 122 <b>Teacher Guide:</b> IN T126; PMD T122A-T122B
<b>C Compose and decompose numbers</b>	
<b>D Classify and describe numeric relationships</b>	
<b>2. Understand meanings of operations and how they relate to one another</b>	
<b>A Represent operations</b>	
<b>B Describe effects of operations</b>	
<b>C Apply properties of operations</b>	

STANDARDS	PAGE REFERENCES
<b>D Apply operations on real and complex numbers</b>	
*apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases	<b>Student Edition:</b> 32, 53, 192 #1 <i>On Your Own</i> 45 #26, 62, 67 #31 <i>Summarize the Mathematics</i> 31, 55, 193 <b>Teacher's Guide:</b> T85; OYO T100, T321 #43; PMD T31A-T31B; SM T31, T193
<b>3. Compute fluently and make reasonable estimates</b>	
<b>A Describe or represent mental strategies</b>	
<b>B Develop and demonstrate fluency</b>	
<b>C Compute problems</b>	
<b>D Estimate and justify solutions</b>	
*judge the reasonableness of numerical computations and their results	<b>Student Edition:</b> 159, 171, 176, 195, 198, 207, 226, 231 #29 <i>Summarize the Mathematics</i> 223 <i>Think About This Situation</i> 104
<b>E Use proportional reasoning</b>	
*solve problems involving proportions	<b>Student Edition:</b> 555-556 #6 <i>On Your Own</i> 91 #2, 99#21c, 130 #3, 257 #13b-d <b>Teacher's Guide:</b> T556; OYO T99, T130, T257
<b>Algebraic Relationships</b>	
<b>1. Understand patterns, relations and functions</b>	
<b>A Recognize and extend patterns</b>	
<b>B Create and analyze patterns</b>	
generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions	<b>Student Edition:</b> <i>On Your Own</i> 60 #8, 169 #3, 172 <i>Summarize the Mathematics</i> 55, 72 <b>Teacher's Guide:</b> IN T172; SM T58B, T72

STANDARDS	PAGE REFERENCES
<b>C Classify objects and representations</b>	
compare and contrast various forms of <u>representations</u> of patterns	<b>Student Edition:</b> 71, 152-154, 157-160, 161-167, 192 #4, 217-218 <i>On Your Own</i> 65 #25, 168 #1, 170, 175 206 #17, 224 #1-#2 <b>Teacher's Guide:</b> T152-T154, T157-T160
<b>D Identify and compare functions</b>	
apply appropriate <u>properties of exponents</u> to simplify expressions and solve equations	<b>Student Edition:</b> 291-293, 294-297, 298-300, 304-305, 323-324, 326-328, 329-330, 332-334 <i>Check Your Understanding</i> 301, 331 <i>On Your Own</i> 307-319, 321 #42, 338-351, 353 #41-#42, 355-359, 487 #23, 525 #33 <i>Summarize the Mathematics</i> 293, 297, 300, 306, 325, 328, 331, 334 <i>Think About This Situation</i> 291, 323 <b>Teacher's Guide:</b> D T293, T336; MT T297A, T306 T325, T328, T334, T337; N T294; SM T297A, TS T291, T323
<b>E Describe the effects of parameter changes</b>	
<b>2. Represent and analyze mathematical situations and structures using algebraic symbols</b>	
<b>A Represent mathematical situations</b>	
<b>B Describe and use mathematical manipulation</b>	
<b>C Utilize equivalent forms</b>	
<b>D Utilize systems</b>	
<b>3. Use mathematical models to represent and understand quantitative relationships</b>	
<b>A Use mathematical models</b>	
identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem	<b>Student Edition:</b> 152-153 #2, 159 #3c, #4c, 162-166, 178 #24, 188, 204 #12, 210 #29, 295-296, 298-299, 327, 329-330, 464-466, 470 <b>Teacher's Guide:</b> STM T167

STANDARDS	PAGE REFERENCES
<b>4. Analyze change in various contexts</b>	
<b>A Analyze change</b>	
analyze linear and quadratic functions by investigating rates of change and intercepts	<b>Student Edition:</b> 28-29, 151-155, 159, 166-167 #8 <i>On Your Own</i> 24 #20-#23, 170, 184 #40 <i>Check Your Understanding</i> 156, 194 <b>Teacher's Guide:</b> T28-T29, T159; CU T194
<b>Geometric and Spatial Relationships</b>	
<b>1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric</b>	
<b>A Describe and use geometric relationships</b>	
use inductive and deductive reasoning to establish the validity of geometric <u>conjectures</u> , prove theorems and critique arguments made by others	<b>Student Edition:</b> 364-368, 374-376, 387, 389 #14, 404-406, 425-430, 439-441 <i>Summarize the Mathematics</i> 368, 403, 406, 411 <i>Think About This Situation</i> 363, 399 <b>Teacher's Guide:</b> IN T376; STM T431
<b>B Apply geometric relationships</b>	
<b>C Compose and decompose shapes</b>	
<b>2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems</b>	
<b>A Use coordinate systems</b>	
make conjectures and solve problems involving 2-dimensional objects represented with Cartesian coordinates	<b>Student Edition:</b> 60 #6-#7, 61 #9, 155, 184 #39, 285 #23, 395 #31, 585 #30 <b>Teacher's Guide:</b> T585 #30
<b>3. Apply transformations and use symmetry to analyze mathematical situations</b>	
<b>A Use transformations on objects</b>	
use and apply constructions and the coordinate plane to represent translations, reflections, rotations and dilations of objects	<b>Student Edition:</b> 68 #36, 370, 408-410, 411, 413-414 #4, 415-416, 417 #12, 419 #16 <i>On Your Own</i> 102 #31, 185 #42, 315 #24 <i>Summarize the Mathematics</i> 411 <b>Teacher's Guide:</b> T315 #24, T408-T410, T410A-T410B, T411; STM T411

STANDARDS	PAGE REFERENCES
<b>B Use transformations on functions</b>	
<b>C Use symmetry</b>	
identify types of symmetries of 2- and 3-dimensional figures	<b>Student Edition:</b> 248 #3b, 400 #1, 401-403, 441 #6, 458-490 <i>Check Your Understanding</i> 407 <i>On Your Own</i> 102 #31, 256 #12b, 413 #4, 414 #5, 446 #9, 451 #19 <i>Summarize the Mathematics</i> 403 <b>Teacher Guide:</b> T401-T403, T458-T459; SM T403
<b>4. Use visualization, spatial reasoning and geometric modeling to solve problems</b>	
<b>A Recognize and draw three-dimensional representations</b>	
draw and use vertex-edge graphs or networks to find optimal solutions and draw representations of 3- dimensional geometric objects from different perspectives	<b>Student Edition:</b> 427, 429-430 #5, 432-434, 435-438, 439-441, 459 #7 <i>Check Your Understanding</i> 435 <i>On Your Own</i> 443-445 <i>Summarize the Mathematics</i> 431, 434 <b>Teacher Guide:</b> T425B, T433-T434, T459; CYU T435
<b>B Draw and use visual models</b>	
*draw or use visual models to represent and solve problems	<b>Student Edition:</b> 57, 111, 127 #6, 155 #5, 159 #3, 235 #5 <i>Check Your Understanding</i> 294 <i>On Your Own</i> 40, 176 #18, 201 #2c, 261 <i>Summarize the Mathematics</i> 122a, 468 <b>Teacher Guide:</b> IN T162; PMD T122A-T122B
<b>Measurement</b>	
<b>1. Understand measurable attributes of objects and the units, systems and processes of measurement</b>	
<b>A Determine unit of measurement</b>	
<b>B Identify equivalent measures</b>	
<b>C Tell and use units of time</b>	
<b>D Count and compute money</b>	

STANDARDS	PAGE REFERENCES
<b>2. Apply appropriate techniques, tools and formulas to determine measurements</b>	
<b>A Use standard or non-standard measurement</b>	
<b>B Use angle measurement</b>	
solve problems of angle measure, including those involving triangles or other polygons and of parallel lines cut by a transversal	<b>Student Edition:</b> 335 #3, 336 #4, 365-365, 375-377 <i>On Your Own</i> 46 #30, 230-231 #28, 344 #18, 383 #2, 391 #18, 457 #3 <i>Summarize the Mathematics</i> 337, 368, 377 <b>Teacher's Guide:</b> MT T368; OYO T46; SM T368
<b>C Apply geometric measurements</b>	
determine the surface area, and volume of geometric figures, including cones, spheres, and cylinders	<b>Student Edition:</b> <i>On Your Own</i> 64 #20, 321 #41e, #43, 447-448, 452 #22, #23b, 453 #24c, #26, 483 #10, 490 #35 <b>Teacher's Guide:</b> T452, OYO T447-T448, T452, T453
<b>D Analyze precision</b>	
<b>E Use relationships within a measurement system</b>	
*use unit <u>analysis</u> to solve problems	<b>Student Edition:</b> 16 #6, 17 #8, 19 #12, 23 #19, 24 #23, 28-29 #1-#5, 45 #27, 46 #29, 62, 180 #31, 361 #1, 395 #30, 397 <b>Teacher's Guide:</b> T45 #27, T49 #5; STM T51B
<b>Data and Probability</b>	
<b>1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them</b>	
<b>A Formulate questions</b>	
formulate and collect data about a characteristic	<b>Student Edition:</b> 74-75, 84 #1, 165-166, 173 #12, 176 #19, 178, 330, 587 <i>Summarize the Mathematics</i> 331 <b>Teacher's Guide:</b> T165; STM T331

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<b>B Classify and organize data</b>	
<b>C Represent and interpret data</b>	
select and use appropriate graphical representation of data and given <u>one-variable quantitative data</u> , display the distribution and describe its shape	<b>Student Edition:</b> 76 #1, 79 #4d, 82, 91 #4c, 99 #21a , 537, 557, 557, 560, 562, 564, 569 #5, 571, 572 <i>Summarize the Mathematics</i> 570
<b>2. Select and use appropriate statistical methods to analyze data</b>	
<b>A Describe and analyze data</b>	
<b>B Compare data representations</b>	
<b>C Represent data algebraically</b>	
<b>3. Develop and evaluate inferences and predictions that are based on data</b>	
<b>A Develop and evaluate inferences</b>	
<b>B Analyze basic statistical techniques</b>	
<b>4. Understand and apply basic concepts of probability</b>	
<b>A Apply basic concepts of probability</b>	
<b>B Use and describe compound events</b>	
<b>Algebra II</b>	
<b>Number and Operations</b>	
<b>1. Understand numbers, ways of representing numbers, relationships among numbers and number systems</b>	
<b>A Read, write and compare numbers</b>	
compare and order rational and irrational numbers, including finding their approximate locations on a number line	<b>Student Edition:</b> 549 #5, 584 <i>On Your Own</i> 46 #31, 175 #14, 263 #31, 351 #36, 583 #25 <b>Teacher Guide:</b> CYU T107; IN T175; OYO T351, T549
<b>B Represent and use rational numbers</b>	
use real numbers and various models, drawing, etc. to solve problems.	<b>Student Edition:</b> 40, 57, 127, 155, 159, 201, 235 <i>Summarize the Mathematics</i> 122 <b>Teacher Guide:</b> IN T126; PMD T122A-T122B

STANDARDS	PAGE REFERENCES
<b>C Compose and decompose numbers</b>	
*use a variety of representations to demonstrate an understanding of very large and very small numbers	<b>Student Edition:</b> 28, 30 #10, 36, 489 #27 <i>On Your Own</i> 46 #29, 142 #29, 169 #4, 346 #22-#23, 525 #32, 583 #25 <b>Teacher's Guide:</b> T28, T570; CYU T31, T218; OYO T36, T46, T140, T142, T169, T346, T525
<b>D Classify and describe numeric relationships</b>	
<b>2. Understand meanings of operations and how they relate to one another</b>	
<b>A Represent operations</b>	
<b>B Describe effects of operations</b>	
<b>C Apply properties of operations</b>	
<b>D Apply operations on real and complex numbers</b>	
*apply operations to matrices and complex numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases	<b>Student Edition:</b> 248-249 #4, 262 #28, 287 #2c <i>Summarize the Mathematics</i> 249 <b>Teacher Guide:</b> T287; OYO T262
<b>3. Compute fluently and make reasonable estimates</b>	
<b>A Describe or represent mental strategies</b>	
<b>B Develop and demonstrate fluency</b>	
<b>C Compute problems</b>	
<b>D Estimate and justify solutions</b>	
*judge the reasonableness of numerical computations and their results	<b>Student Edition:</b> 159, 171, 176, 195, 198, 207, 226, 231 #29 <i>Summarize the Mathematics</i> 223 <i>Think About This Situation</i> 104
<b>E Use proportional reasoning</b>	
*solve problems involving proportions	<b>Student Edition:</b> 555-556 #6 <i>On Your Own</i> 91 #2, 99#21c, 130 #3, 257 #13b-d <b>Teacher's Guide:</b> T556; OYO T99, T130, T257

STANDARDS	PAGE REFERENCES
<b>Algebraic Relationships</b>	
<b>1. Understand patterns, relations and functions</b>	
<b>A Recognize and extend patterns</b>	
<b>B Create and analyze patterns</b>	
generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions	<b>Student Edition:</b> <i>On Your Own</i> 60 #8, 169 #3, 172, 486 #19 <i>Summarize the Mathematics</i> 55, 72 <b>Teacher's Guide:</b> IN T172; SM T58B, T72
<b>C Classify objects and representations</b>	
compare and contrast various forms of <u>representations</u> of patterns	<b>Student Edition:</b> 71, 152-154, 157-160, 161-167, 192 #4, 217-218 <i>On Your Own</i> 65 #25, 168 #1, 170, 175 206 #17, 224 #1-#2 <b>Teacher's Guide:</b> T152-T154, T157-T160
<b>D Identify and compare functions</b>	
Compare the properties of linear, exponential, logarithmic and ration functions	<b>Student Edition:</b> 153, 155, 157f, 166, 170 <i>Check Your Understanding</i> 325-326 <i>On Your Own</i> 168 #2, 321 #44 <i>Summarize the Mathematics</i> 156 <i>Think About This Situation</i> 151 <b>Teacher's Guide:</b> CU T326; TS T151
<b>E Describe the effects of parameter changes</b>	
describe the effects of <u>parameter changes</u> on functions	<b>Student Edition:</b> <i>On Your Own</i> 62-63 #13-#18, 65 #25, 452 #22 <b>Teacher's Guide:</b> N T448; OYO T62-T63

STANDARDS	PAGE REFERENCES
<b>2. Represent and analyze mathematical situations and structures using algebraic symbols</b>	
<b>A Represent mathematical situations</b>	
<p>use <u>symbolic algebra</u> to represent and solve problems that involve exponential, quadratic and logarithmic relationships</p>	<p><b>Student Edition:</b>  293 #5, 294-297, 299-300, 304-305, 324, 493-494  <i>Check Your Understanding</i> 298  <i>On Your Own</i> 312 #14-#15, 499-500  <i>Summarize the Mathematics</i> 293, 297, 300, 306, 325, 494</p> <p><b>Teacher Guide:</b>  SM T293A, T297A</p>
<b>B Describe and use mathematical manipulation</b>	
<p>describe and use algebraic manipulations, <u>inverse</u> or <u>composition</u> of functions</p>	<p><b>Student Edition:</b>  155, 291, 333, 494 #4, 497  <i>Check Your Understanding</i> 479  <i>On Your Own</i> 177 #21, 499  <i>Summarize the Mathematics</i> 337</p> <p><b>Teacher Guide:</b>  T494-T495</p>
<b>C Utilize equivalent forms</b>	
<p>use and solve equivalent forms of equations and inequalities</p>	<p><b>Student Edition:</b>  215-218, 219-222, 475-476, 495-498  <i>Check Your Understanding</i> 218, 223, 494  <i>On Your Own</i> 224-225, 343 #13, 501 #4-#7  <i>Summarize the Mathematics</i> 218, 334, 359, 494, 498</p> <p><b>Teacher Guide:</b>  T495</p>
<b>D Utilize systems</b>	
<p>use and solve systems of linear and quadratic equations or inequalities with 2 variables</p>	<p><b>Student Edition:</b>  199, 204 #12, 205 #13, 208 #24, 211 #32, 236 #7  <i>On Your Own</i> 204 #12, 205 #13, 208 #24, 211 #32  <i>Summarize the Mathematics</i> 200</p> <p><b>Teacher's Guide:</b>  T199; OYO T204 #12</p>

STANDARDS	PAGE REFERENCES
<b>3. Use mathematical models to represent and understand quantitative relationships</b>	
<b>A Use mathematical models</b>	
<p>identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem</p>	<p><b>Student Edition:</b> 152-153 #2, 159 #3c, #4c, 162-166, 178 #24, 188, 204 #12, 210 #29, 295-296, 298-299, 327, 329-330, 464-466, 470</p> <p><b>Teacher’s Guide:</b> STM T167</p>
<b>4. Analyze change in various contexts</b>	
<b>A Analyze change</b>	
<p>analyze exponential and logarithmic functions by investigating rates of change, intercepts and asymptotes</p>	<p><b>Student Edition:</b> 299-300, 302, 324, 327, 357 <i>Check Your Understanding</i> 301, 303 <i>On Your Own</i> 307, 338-340 <i>Summarize the Mathematics</i> 300, 325 <i>Think About This Situation</i> 323</p> <p><b>Teacher Guide:</b> SM T300A, T325</p>
<b>Geometric and Spatial Relationships</b>	
<b>1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric</b>	
<b>A Describe and use geometric relationships</b>	
<p>use trigonometric relationships with right triangles to determine lengths and angle measures</p>	<p><b>Student Edition:</b> 143 #35, 161-162, 285 #26, 320 #38, 374, 392 #21, 395 #30, 422 #28, 524 #31c, 585 #31</p> <p><b>Teacher’s Guide:</b> I T374</p>
<b>B Apply geometric relationships</b>	
<b>C Compose and decompose shapes</b>	
<b>2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems</b>	
<b>A Use coordinate systems</b>	

STANDARDS	PAGE REFERENCES
<b>3. Apply transformations and use symmetry to analyze mathematical situations</b>	
<b>A Use transformations on objects</b>	
<b>B Use transformations on functions</b>	
translate, dilate and reflect <u>functions</u>	<b>Student Edition:</b> 309 #7, 475, 477-478 #8 <i>Check Your Understanding</i> 479 <i>On Your Own</i> 177 #22, 345 #21 <i>Summarize the Mathematics</i> 478 <b>Teacher Guide:</b> T477-T478; OYO T177, T345; SM T478A
<b>C Use symmetry</b>	
<b>4. Use visualization, spatial reasoning and geometric modeling to solve problems</b>	
<b>A Recognize and draw three-dimensional representations</b>	
<b>B Draw and use visual models</b>	
*draw or use <u>visual models</u> to represent and solve problems	<b>Student Edition:</b> 57, 111, 127 #6, 155 #5, 159 #3, 235 #5 <i>Check Your Understanding</i> 294 <i>On Your Own</i> 40, 176 #18, 201 #2c, 261 <i>Summarize the Mathematics</i> 122a, 468 <b>Teacher Guide:</b> IN T162; PMD T122A-T122B
<b>Measurement</b>	
<b>1. Understand measurable attributes of objects and the units, systems and processes of measurement</b>	
<b>A Determine unit of measurement</b>	
<b>B Identify equivalent measures</b>	
<b>C Tell and use units of time</b>	
<b>D Count and compute money</b>	

STANDARDS	PAGE REFERENCES
<b>2. Apply appropriate techniques, tools and formulas to determine measurements</b>	
<b>A Use standard or non-standard measurement</b>	
<b>B Use angle measurement</b>	
<b>C Apply geometric measurements</b>	
<b>D Analyze precision</b>	
apply concepts of successive approximation	<b>Student Edition:</b> 80 #7, 82, 395 #30, 401 #2d, #3 <b>Teacher's Guide:</b> T395 #30, T413 #33, T415 #7, T418 #14d, T521B
<b>E Use relationships within a measurement system</b>	
*use <u>unit analysis</u> to solve problems involving rates, such as speed, density or population density	<b>Student Edition:</b> 28-29, 151-155, 159, 166-167 #8 <i>On Your Own</i> 24 #20-#23, 170, 184 #40 <i>Check Your Understanding</i> 156, 194 <b>Teacher's Guide:</b> T28-T29, T159; CU T194
<b>Data and Probability</b>	
<b>1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them</b>	
<b>A Formulate questions</b>	
<b>B Classify and organize data</b>	
<b>C Represent and interpret data</b>	
select and use appropriate graphical representation of data and given <u>one-variable quantitative data</u> , describe its shape and calculate <u>summary statistics</u>	<b>Student Edition:</b> 77-78 #3, 117-122, 553-558 <i>On Your Own</i> 132-134, 140-141 #26-#27, 184-185 #41, 397 #39, 454-455 #31, 490 #31, 508 #27 <i>Summarize the Mathematics</i> 147 <i>Think About This Situation</i> 552 c <b>Teacher's Guide:</b> T117-T122; OYO T140B

STANDARDS	PAGE REFERENCES
<b>2. Select and use appropriate statistical methods to analyze data</b>	
<b>A Describe and analyze data</b>	
apply statistical measures of center to solve problems	<b>Student Edition:</b> 76-77, 82, 91 #4c, 96 #15, 99 #21a, 165-166, 173 #12, 176 #19, 178, 330, 534-535 #4-#8, 542 #2, 544-545 #7-#9, 548 #19  <b>Teacher's Guide:</b> T165; STM T331, T536
<b>B Compare data representations</b>	
<b>C Represent data algebraically</b>	
given a scatterplot, determine a type of function which models the data	<b>Student Edition:</b> 161-167, 233 <i>On Your Own</i> 167, 173-174, 176 #19, 180 #32 <i>Summarize the Mathematics</i> 236a  <b>Teacher's Guide:</b> T161-T167, T233; OYO T173-T174; SM T161, T167
<b>3. Develop and evaluate inferences and predictions that are based on data</b>	
<b>A Develop and evaluate inferences</b>	
<b>B Analyze basic statistical techniques</b>	
<b>4. Understand and apply basic concepts of probability</b>	
<b>A Apply basic concepts of probability</b>	
describe the concepts of <u>sample space</u> and <u>probability distribution</u>	<b>Student Edition:</b> 534-540, 546, 548, 590 <i>Check Your Understanding</i> 541, 570 <i>On Your Own</i> 24 #21, 546 <i>Think About This Situation</i> 533, 552  <b>Teacher's Guide:</b> T552B; CYU T570

STANDARDS	PAGE REFERENCES
<b>B Use and describe compound events</b>	
<p>use and describe the concepts of conditional probability and independent events and how to compute the probability of a <u>compound event</u></p>	<p><b>Student Edition:</b>            534-535, 536-540, 552-556, 558-563, 586-590  <i>Check Your Understanding</i> 570  <i>On Your Own</i> 24 #21, 143 #36, 542-544, 578 #17, 581 #21  <i>Summarize the Mathematics</i> 10  <i>Think About This Situation</i> 552</p> <p><b>Teacher's Guide:</b>            T552-556; CYU T570; OYO T24; TS T552A</p>