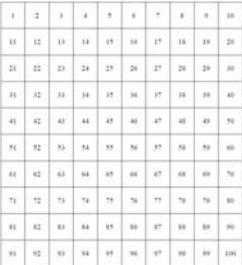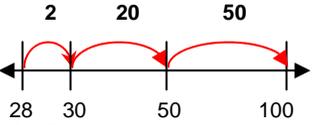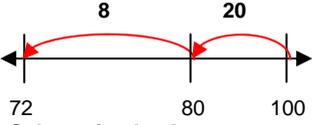**TEKS 5.3A**   Use addition and subtraction to solve problems involving whole numbers and decimals
5.4   Use strategies including rounding and compatible numbers to estimate solutions to addition, subtraction, multiplication, and division problems

Subject: Mathematics   **Goal Strand: Number, Operation, and Quantitative Reasoning**   **Math Problems by RIT**

Skills and Concepts 181-190	Skills and Concepts 191 - 200	Skills and Concepts 201 - 210	Skills and Concepts 211 - 220	Skills and Concepts 221 - 230	Skills and Concepts 231 - 240	Skills and Concepts 240 +
Add and Subtract Whole Numbers	**Add and Subtract Whole Numbers**	**Add and Subtract Whole Numbers**	**Add and Subtract Whole Numbers**	**Add and Subtract Whole Numbers**	**Add and Subtract Whole Numbers**	**Add and Subtract Whole Numbers**

181-190	191-200	201-210	211-220	221-230	231-240	240+

Provide students with a hundreds chart.
 	
Problem:
Misaki went to the Post Office and bought 28 stamps. How many more stamps would she need to have total of 100 stamps.
 	
a. How many stamps did Misaki start with?
b. How many stamps did she need?
c. Discuss the strategy that the student(s) chose.
	Provide students with a blank number line.
	
	Problem:
	Misaki went to the Post Office and bought 28 stamps. How many more stamps would she need to have total of 100 stamps.
	
	a. How many stamps did Misaki start with?
	b. How many stamps did she need?
	c. Discuss the strategy that the student(s) chose.
	
	2 20 50
	
	28 30 50 100
	Adding up
	
	8 20
	
	72 80 100
	Subtracting back
		Problem:
		
		Suppose your family is taking a special trip. On this trip, you will travel exactly 1000 miles. After a couple of days of traveling, you have gone 630 miles. How many more miles do you still have to go to reach 1000?
		
		630 + 300 = 930
		930 + 70 = 1000
		Adding up
		
		1000 – 300 = 700
		700 – 70 = 630
		Subtracting back
			p. 63 Investigations Teacher's Ed.
			
			Problem:
			
			1,569 – 275 = **1,294**
			-------------------------------- 	
			1,569 – 200 = 1,369
			1,369 – 60 = 1,309
			1,309 – 5 = 1,304
			1,304 – 10 = 1,294
			
			1. Explain what happened in this problem.
			2. Create a problem, work the solution, and explain the steps you took to solve the problem.
				Subtraction Starter Problems Student book p. 30
				
				There are three ways to start this problem. Solve each start, then choose two of the starts and solve the rest of the problem.
				
				Problem: 2168 – 455 =
				
				a. 2148 – 400 =
				b. 455 – 45 =
				c. 2168 – 460 =
				
				1. Put this problem into a story context.
				2. Identify which strategy makes the most sense to you. Why?
				3. Explain how these three strategies are alike and different.
					Solve the following problem using all three strategies:
					
					a. Subtracting in parts
					b. Adding up
					c. Subtracting back
					
					Problem: 1205 – 732 =
					
					1. Evaluate whether your work is clear and concise.
					2. Is there a way to make your work more clear or concise?
					3. Create additional problems and story context for each of the three strategies,
					4. Determine if these strategies would work for decimals.
					5. Explain and model your answer.
						Analyze subtraction algorithms used in other countries.
						Step 1: Become familiar with each procedure by trying it out. Make up some more problems for yourself in order to develop facility with this approach.
						Step 2: Discuss with others in the group why the method works. You may want to use words, manipulatives, diagrams, or any combination of these.
						Step 3: Create and solve a problem using each of these algorithms.
						Method A
						$5^{1}3$
						$-\ ^{4}\cancel{3}\,8$
						$1\ 5$
						You can't take 8 from 3, so you make the three 13. That means you have to make the 3 tens you're taking away into 4 tens. Then you subtract: 8 from 13 is 5, 4 from 5 is 1.
						Method B
						53 53
						- 38 + 61
						          ⁄114
						          + 1
						          15
						Transform into an addition problem by subtracting each number in the bottom (subtrahend) from 9. Thus, 3 becomes 6, 8 becomes 1. Now add. When done, drop the 1 in the largest place and add 1 to the ones place to get the answer 15.

DesCartes Learning Statements **Uses models** to calculate differences through 100 (whole numbers)* **Subtracts** a 2-digit number from a 2-digit number, with **regrouping** **Subtracts** 2- and/or 3-digit numbers with **no regrouping**	**DesCartes Learning Statements** **Uses** number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers) **Uses** strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)	**DesCartes Learning Statements** **Adds** and **subtracts** whole numbers using **place value** **Subtracts** 3- or 4-digit numbers with **regrouping**	**DesCartes Learning Statements** **Adds** and **subtracts** whole numbers using **place value** **Subtracts** 3- or 4-digit numbers with **regrouping**	**DesCartes Learning Statements** **Models** algorithms using **place value** concepts (addition and subtraction with whole numbers)*	**DesCartes Learning Statements** **Models** algorithms using **place value** concepts (addition and subtraction with whole numbers)*	**DesCartes Learning Statements** **Models** algorithms using **place value** concepts (addition and subtraction with whole numbers)*