

2014c Course 2
Khan Academy Video Correlations
By SpringBoard Activity

SB Activity	Video(s)
Unit 1: Number Systems	
Activity 1 <i>Operations on Positive Rational Numbers</i> 1-1 Learning Targets: <ul style="list-style-type: none"> Solve problems with decimals, using addition and subtraction. Justify solutions with decimals, using addition and subtraction. Estimate decimal sums and differences. 1-2 Learning Targets: <ul style="list-style-type: none"> Estimate decimal products and quotients. Solve problems involving multiplication and division of decimals. 1-3 Learning Targets: <ul style="list-style-type: none"> Solve problems with fractions using addition, subtraction, multiplication, and division. Estimate with fractions. 1-4 Learning Targets: <ul style="list-style-type: none"> Convert a fraction to a decimal. Understand the difference between terminating and repeating decimals. 	<i>Multiplying and Dividing Decimals</i>
	Multiplying decimals example Multiplying challenging decimals Dividing by a multi-digit decimal Dividing a whole number by a decimal Dividing a decimal by a whole number
	<i>Fractions</i>
	Adding, subtracting fractions Multiplying negative and positive fractions Dividing negative fractions
	<i>Numbers in Different Forms</i>
	Adding, subtracting numbers in different formats Adding, subtracting fractions, decimals, percentages Fraction to decimal Converting fractions to decimals
Activity 2 <i>Addition and Subtraction of Integers</i> 2-1 Learning Targets: <ul style="list-style-type: none"> Add two or more integers. Identify and combine opposites. Solve real-world problems by adding integers. 2-2 Learning Targets: <ul style="list-style-type: none"> Subtract integers. Find distances using absolute value 	<i>Adding and Subtracting Integers</i>
	Learn how to add and subtract negative numbers Adding negative numbers Adding numbers with different signs Subtracting a negative = adding a positive Inverse property of addition
	<i>Absolute Value</i>
	Absolute value and number lines Absolute value of integers Absolute value word problems Constructing and interpreting absolute value
	<i>Understanding Multiplication with Negative Numbers</i>
	Why a negative times a negative is a positive Why a negative times a negative makes intuitive sense
Activity 3 <i>Multiplication and Division of Integers</i> 3-1 Learning Targets:	

<ul style="list-style-type: none"> • Multiply two or more integers. • Apply properties of operations to multiply integers. • Solve real-world problems by multiplying, adding, and subtracting integers. <p>3-2 Learning Targets:</p> <ul style="list-style-type: none"> • Divide integers. • Solve real-world problems by dividing integers and possibly adding, subtracting, or multiplying integers as well. 	<p style="text-align: center;"><i>Multiplying Integers</i></p> <p>Multiplying positive and negative numbers</p> <p>Multiplying numbers with different signs</p> <p style="text-align: center;"><i>Dividing Integers</i></p> <p>Dividing positive and negative numbers</p>
<p>Activity 4 <i>Operations on Rational Numbers</i></p> <p>4-1 Learning Targets:</p> <ul style="list-style-type: none"> • Given a rational number, determine whether the number is a whole number, an integer, or a rational number that is not an integer. • Describe relationships between sets of rational numbers. <p>4-2 Learning Targets:</p> <ul style="list-style-type: none"> • Add two or more rational numbers. • Use properties of addition to add rational numbers. • Solve real-world problems by adding two or more rational numbers. <p>4-3 Learning Targets:</p> <ul style="list-style-type: none"> • Subtract rational numbers. • Apply the fact that for all rational numbers a and b, $a - b = a + (-b)$, to add and subtract rational numbers. • Solve real-world problems by subtracting rational numbers and possibly by adding rational numbers as well. <p>4-4 Learning Targets:</p> <ul style="list-style-type: none"> • Multiply and divide rational numbers. • Apply properties of operations to multiply and divide rational numbers. • Solve real-world problems involving the four operations with rational numbers. 	<p style="text-align: center;"><i>Sets of Numbers</i></p> <p>Number sets</p> <p style="text-align: center;"><i>Adding and Subtracting Rational Numbers</i></p> <p>Adding, subtracting fractions</p> <p style="text-align: center;"><i>Multiplying and Dividing Rational Numbers</i></p> <p>Multiplying negative and positive fractions</p> <p>Dividing negative fractions</p>
Unit 2: Expressions and Equations	
<p>Activity 5 <i>Properties of Operations</i></p> <p>5-1 Learning Targets:</p> <ul style="list-style-type: none"> • Identify properties of operations. • Apply properties of operations to simplify 	<p style="text-align: center;"><i>Arithmetic Properties</i></p> <p>Commutative property for addition</p> <p>Commutative law of addition</p> <p>Commutative law of multiplication</p>

<p>linear expressions.</p> <p>5-2 Learning Targets:</p> <ul style="list-style-type: none"> Apply properties to factor and expand linear expressions. Rewrite expressions to see how the problem and quantities are related. 	<p>Associative law of addition</p> <p>Associative law of multiplication</p> <p>Properties of numbers 1</p> <p>Number properties terminology 1</p> <p>Identity property of 1</p> <p>Identity property of 1 (second example)</p> <p>Identity property of 0</p> <p>Inverse property of addition</p> <p>Inverse property of multiplication</p> <p>Properties of numbers 2</p>
<p>Activity 6 <i>Writing and Solving Equations</i></p> <p>6-1 Learning Targets:</p> <ul style="list-style-type: none"> Use variables to represent quantities in real-world problems. Model and write two-step equations to represent real-world problems. <p>6-2 Learning Targets:</p> <ul style="list-style-type: none"> Solve two-step equations. Solve real-world problems by writing an equation of the form $px + q = r$. 	<p style="text-align: center;"><i>Understanding Terminology</i></p> <p>What is a variable?</p> <p>Expression terms, factors and coefficients</p> <p style="text-align: center;"><i>Solving Two-Step Equations</i></p> <p>Why we do the same thing to both sides: Simple equations</p> <p>Solving two-step equations</p> <p>Solving a more complicated equation</p>
<p>Activity 7 <i>Solving and Graphing Inequalities</i></p> <p>7-1 Learning Targets:</p> <ul style="list-style-type: none"> Represent quantities in a real-world problem. Construct two-step inequalities to solve problems. <p>7-2 Learning Targets:</p> <ul style="list-style-type: none"> Solve two-step inequalities. Construct two-step inequalities to solve problems. 	<p style="text-align: center;"><i>Solving Two-Step Inequalities</i></p> <p>Solving a two-step inequality</p> <p>Constructing and solving a two-step inequality</p> <p>Constructing, solving two-step inequality example</p>
Unit 3: Ratio and Proportion	
<p>Activity 8 <i>Ratio and Unit Rates</i></p> <p>8-1 Learning Targets:</p> <ul style="list-style-type: none"> Express relationships using ratios. Find unit rates. <p>8-2 Learning Targets:</p> <ul style="list-style-type: none"> Determine whether quantities are in a proportional relationship. Solve problems involving proportional 	<p style="text-align: center;"><i>Ratios and Unit Rates</i></p> <p>Solving unit rates problem</p> <p style="text-align: center;"><i>Identifying and Solving Proportions</i></p> <p>Writing proportions</p> <p>Solve a proportion with an unknown variable</p> <p>Solve a proportion with unknown variable word problem</p> <p>Analyzing proportional relationships from a table</p>

<p>relationships.</p> <p>8-3 Learning Targets:</p> <ul style="list-style-type: none"> Convert between measurement. Use unit rates and proportions for conversions. 	
<p>Activity 9 <i>Proportional Reasoning</i></p> <p>9-1 Learning Targets:</p> <ul style="list-style-type: none"> Given representations of proportional relationships, represent constant rates of change with equations of the form $y = kx$. Determine the meaning of points on a graph of a proportional relationship. Solve problems involving proportional relationships. <p>9-2 Learning Targets:</p> <ul style="list-style-type: none"> Determine the constant of proportionality from a table, graph, equation, or verbal description of a proportional relationship. 	<p>Analyzing Proportional Relationships</p> <p>Analyzing proportional relationships from a table</p> <p>Constructing and Solving Proportional Relationships</p> <p>Constructing an equation for a proportional relationship</p> <p>Solve a proportion with an unknown variable</p>
<p>Activity 10 <i>Proportional Relationships and Scale</i></p> <p>10-1 Learning Targets:</p> <ul style="list-style-type: none"> Represent proportional relationships by equations. Determine the constant of proportionality from a table, graph, equation, or verbal description of a proportional relationship. Solve problems using scale drawings. <p>10-2 Learning Targets:</p> <ul style="list-style-type: none"> Given the scale of a map and a distance on a map, find the actual distance. Convert scale factors with units to scale factors without units. <p>10-3 Learning Targets:</p> <ul style="list-style-type: none"> Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing. Reproduce a scale drawing at a different scale. 	<p>Constructing and Solving Proportional Relationships</p> <p>Constructing an equation for a proportional relationship</p> <p>Construction proportions to solve application problems</p> <p>Solve a proportion with an unknown variable</p> <p>Using Scale Drawings</p> <p>How to make a scale drawing</p> <p>Interpreting a scale drawing</p> <p>Solve a scale drawing word problem</p>
<p>Activity 11 <i>Percent Problems</i></p> <p>11-1 Learning Targets:</p> <ul style="list-style-type: none"> Find a percent of a number. Find the percent that one number is of 	<p>Finding Percent</p> <p>Finding a percentage</p> <p>Percent Problems</p> <p>Solving percent problems</p> <p>Percent word problem example 1</p>

<p>another.</p> <ul style="list-style-type: none"> Given the percent and the whole, find the part. <p>11-2 Learning Targets:</p> <ul style="list-style-type: none"> Solve problems about sales tax, tips, and commissions. 	<p>Percent word problem example 2</p> <p>Percent word problem example 3</p> <p>Percent word problem example 4</p> <p>Percent word problem example 5</p> <hr/> <p style="text-align: center;"><i>Percent and Decimals</i></p> <p>Converting percents to decimals</p> <p>Converting percents to decimals example 2</p> <p>Converting percent to decimal and fraction</p> <p>Converting decimals to percents</p> <p>Converting decimals to percents example 2</p>
<p>Activity 12 <i>More Percent Problems</i></p> <p>12-1 Learning Targets:</p> <ul style="list-style-type: none"> Solve problems about percent increase, percent decrease, markups, and discounts. <p>12-2 Learning Targets:</p> <ul style="list-style-type: none"> Solve problems about percent increase, percent decrease, markups, and discounts. <p>12-3 Learning Targets:</p> <ul style="list-style-type: none"> Solve problems about interest. <p>12-4 Learning Targets:</p> <ul style="list-style-type: none"> Solve problems about percent error. 	<p style="text-align: center;"><i>Percent Problems</i></p> <p>Growing by a percentage</p> <p>Solving percent problems</p>

Unit 4: Geometry	
<p>Activity 13 <i>Angle Pairs</i></p> <p>13-1 Learning Targets:</p> <ul style="list-style-type: none"> Use facts about complementary, supplementary, and adjacent angles to write equations. Solve simple equations for an unknown angle in a figure. <p>13-2 Learning Targets:</p> <ul style="list-style-type: none"> Write and solve equations using geometry concepts. Solve problems involving the sum of the measures of the angles in a triangle. Solve equations involving angle relationships. 	<p style="text-align: center;"><i>Measures of Angles</i></p> <p>Complementary and supplementary angles</p> <p>Find measure of complementary angles</p> <p>Find measure of supplementary angles</p> <p>Introduction to vertical angles</p> <p>Find measure of vertical angles</p> <p>Find measure of angles in a word problem</p> <p>Solving for an angle</p>
<p>Activity 14 <i>Triangle Measurements</i></p> <p>14-1 Learning Targets:</p>	<p style="text-align: center;"><i>Constructing Triangles</i></p> <p>Construct a triangle with constraints</p>

<ul style="list-style-type: none"> Decide if three side lengths determine a triangle. Draw a triangle given measures of sides. <p>14-2 Learning Targets:</p> <ul style="list-style-type: none"> Draw a triangle given measures of angles and/or sides. Recognize when given conditions determine a unique triangle, more than one triangle, or no triangle. 	
<p>Activity 15 <i>Similar Figures</i></p> <p>15-1 Learning Targets:</p> <ul style="list-style-type: none"> Identify whether or not polygons are similar. Find a common ratio for corresponding side lengths of similar polygons. <p>15-2 Learning Targets:</p> <ul style="list-style-type: none"> Apply properties of similar figures to determine missing lengths. Solve problems using similar figures. 	<p style="text-align: center;">Similar Triangles</p> <p>Similar triangle basics</p> <p>Similar triangles</p> <p>Similar triangles (part 2)</p>
<p>Activity 16 <i>Circles: Circumference and Area</i></p> <p>16-1 Learning Targets:</p> <ul style="list-style-type: none"> Investigate the ratio of the circumference of a circle to its diameter. Apply the formula to find the circumference of a circle. <p>16-2 Learning Targets:</p> <ul style="list-style-type: none"> Approximate the area of a circle. Apply the formula to find the area of a circle. 	<p style="text-align: center;">Circle Basics</p> <p>Circles: radius, diameter, circumference and Pi</p> <p>Labeling parts of a circle</p> <hr/> <p style="text-align: center;">Circumference of a Circle</p> <p>Circumference of a circle</p> <hr/> <p style="text-align: center;">Area of a Circle</p> <p>Area of a circle</p>
<p>Activity 17 <i>Composite Area</i></p> <p>17-1 Learning Targets:</p> <ul style="list-style-type: none"> Determine the area of geometric figures. Determine the area of composite figures. <p>17-2 Learning Targets:</p> <ul style="list-style-type: none"> Determine the area of composite figures. Solve problems involving area. 	<p style="text-align: center;">Area of Polygons</p> <p>Perimeter and area: the basics</p> <p>Area of a parallelogram</p> <p>Area of a trapezoid</p> <p>Area of a kite</p> <p>Finding area by breaking up the shape</p> <p>Finding area by rearranging parts</p> <p>Area of strange quadrilateral</p>
<p>Activity 18 <i>Sketching Solids</i></p> <p>18-1 Learning Targets:</p> <ul style="list-style-type: none"> Draw different views of three-dimensional 	<p style="text-align: center;">Nets of Three-dimensional Figures</p> <p>Nets of polyhedra</p> <p>Finding surface area: nets of polyhedra</p>

<p>solids.</p> <ul style="list-style-type: none"> Identify cross sections and other views of pyramids and prisms. <p>18-2 Learning Targets:</p> <ul style="list-style-type: none"> Calculate the lateral and total surface area of prisms. <p>18-3 Learning Targets:</p> <ul style="list-style-type: none"> Calculate the lateral and total surface area of pyramids. 	
<p>Activity 19 <i>Volume</i></p> <p>19-1 Learning Targets:</p> <ul style="list-style-type: none"> Calculate the volume of prisms. <p>19-2 Learning Targets:</p> <ul style="list-style-type: none"> Calculate the volume of pyramids. Calculate the volume of complex solids. Understand the relationship between the volume of a prism and the volume of a pyramid. 	<p style="text-align: center;"><i>Volume of Three-dimensional Figures</i></p> <p>Volume of a rectangular prism: fractional dimensions</p> <p>Volume of a rectangular prism: fractional cubes</p> <p>Volume of a rectangular prism: word problem</p> <p>Find the volume of a triangular prism and cube</p>
Unit 5: Probability	
<p>Activity 20 <i>Exploring Probability</i></p> <p>20-1 Learning Targets:</p> <ul style="list-style-type: none"> Reason about the likelihood of winning a game based on a probability experiment. Provide support for winning strategies of a game based on a probability experiment. <p>20-2 Learning Targets:</p> <ul style="list-style-type: none"> Collect data about chance processes in frequency tables or lists. Determine probabilities for outcomes in a probability experiment. Describe the results of an investigation and support the conclusions. <p>20-3 Learning Targets:</p> <ul style="list-style-type: none"> Interpret a probability as the fraction of the number of times that an outcome occurs when a probability experiment is repeated many times. Estimate probabilities of outcomes in probability experiments. <p>20-4 Learning Targets:</p> <ul style="list-style-type: none"> Make decisions based on probabilities. Expect variation in results from chance processes. 	<p style="text-align: center;"><i>Basic Probability</i></p> <p>Probability explained</p> <p>Determining probability</p> <p>Finding probability example</p> <p>Finding probability example 2</p> <p>Finding probability example 3</p>

<ul style="list-style-type: none"> • Write about chance processes and justify conclusions based on probability experiments. 	
<p>Activity 21 <i>Probability</i></p> <p>21-1 Learning Targets:</p> <ul style="list-style-type: none"> • Recognize when a probability experiment has outcomes that are equally likely. • Calculate probabilities for a probability experiment with equally likely outcomes. • Know what “selected at random” means. <p>21-2 Learning Targets:</p> <ul style="list-style-type: none"> • Calculate theoretical probabilities for a probability experiment. • Estimate probabilities by observing outcomes of a probability experiment. <p>21-3 Learning Targets:</p> <ul style="list-style-type: none"> • Compare theoretical probabilities and estimated probabilities. 	<p style="text-align: center;"><i>Comparing Probabilities</i></p>
<p>Activity 22 <i>Games and Probability</i></p> <p>22-1 Learning Targets:</p> <ul style="list-style-type: none"> • Use observed outcomes to estimate probabilities. • Use tables to represent the possible outcomes of a probability experiment. <p>22-2 Learning Targets:</p> <ul style="list-style-type: none"> • Use tables to represent the possible outcomes of a probability experiment. • Assign probabilities to outcomes in a sample space. • Use probabilities assigned to outcomes in a sample space to compute event probabilities. <p>22-3 Learning Targets:</p> <ul style="list-style-type: none"> • Use observed outcomes to estimate probabilities. • Use tables and tree diagrams to represent the possible outcomes of a probability experiment. • Calculate the probabilities of events for a probability experiment with equally likely outcomes. <p>22-4 Learning Targets:</p>	<p style="text-align: center;"><i>Constructing Probability Models</i></p>

<ul style="list-style-type: none"> • Use observed outcomes to estimate probabilities. • Use tables and tree diagrams to represent the possible outcomes of a probability experiment. 	
<p>Activity 23 <i>Probability</i></p> <p>23-1 Learning Targets:</p> <ul style="list-style-type: none"> • Use artificial processes to simulate outcomes. • Assign random digits to outcomes. • Carry out a simulation using random digits. <p>23-2 Learning Targets:</p> <ul style="list-style-type: none"> • Design and carry out a simulation. • Use a simulation to estimate a probability. <p>23-3 Learning Targets:</p> <ul style="list-style-type: none"> • Design and carry out the simulation of a compound event. • Use a simulation to estimate the probability of a compound event. <p>23-4 Learning Targets:</p> <ul style="list-style-type: none"> • Design and carry out the simulation of a compound event. • Use a simulation to estimate the probability of a compound event. 	
Unit 6: Statistics	
<p>Activity 24 <i>Statistics</i></p> <p>24-1 Learning Targets:</p> <ul style="list-style-type: none"> • Determine from what population data have been collected. • Determine if a data collection is a census. • Distinguish between a population and a sample. <p>24-2 Learning Targets:</p> <ul style="list-style-type: none"> • Understand that the way a sample is selected is important. • Understand that random sampling is a fair method for selecting a sample. • Use the random-number digit table to select a random sample. 	<p style="text-align: center;">Sampling</p> <p>Reasonable samples</p> <p>Inferring population mean from sample mean</p>
<p>Activity 25 <i>Exploring Sampling Variability</i></p> <p>25-1 Learning Targets:</p> <ul style="list-style-type: none"> • Understand the difference between 	<p style="text-align: center;">Sampling</p> <p>Reasonable samples</p> <p>Inferring population mean from sample mean</p>

<p>variability in a population and sampling variability.</p> <ul style="list-style-type: none"> • Know that increasing the sample size decreases sampling variability. <p>25-2 Learning Targets:</p> <ul style="list-style-type: none"> • Use data from a random sample to estimate a population characteristic. • Understand the implications of sampling variability when estimating a population characteristic. • Use data from a random sample to draw a conclusion about a population. 	
<p>Activity 26 <i>Comparative Statistics</i></p> <p>26-1 Learning Targets:</p> <ul style="list-style-type: none"> • Compare the means of two numerical samples. • Understand that a <i>meaningful</i> difference between two sample means is one that is greater than would have been expected due to sampling variability alone. • Use data from random samples to compare populations <p>26-2 Learning Targets:</p> <ul style="list-style-type: none"> • Compare population means for populations with approximately the same amount of variability. • Express the difference in the sample means in terms of mean absolute deviation (MAD). • Draw differences based on sample size and the difference in sample means relative to the MAD <p>26-3 Learning Targets:</p> <ul style="list-style-type: none"> • Calculate the mean absolute deviation (MAD) • Use two random samples to compare population means. • Draw conclusions about populations with similar amounts of variability based on the difference of two sample means 	<p>Comparative Statistics</p>
<p>.Unit 7: Personal Financial Literacy</p>	
<p>Activity 27 <i>Budgeting and Money Management</i></p> <p>Probability explained</p>	<p>N/A</p>

[Determining probability](#)

[Finding probability example](#)

[Finding probability example 2](#)

[Finding probability example 3](#)