Middle School Math

Step 1: Khan Academy

Easy Peasy All in One Homeschool

Description: An ordered list of 131 videos and exercises (with links) to complete Khan Academy arithmetic and pre-algebra Step 1: Khan Academy

DIRECTIONS: You will start at the top of the page (at Addition and Subtraction) and work your way down in order. Make sure you read the directions every time. These links are to the video unless marked differently. Even if you know the material (like Basic Addition), you will still go to the video link. You can move onto the exercise as soon as you know the material. That means you can do the exercise without watching the video if you already know how to do it. On the video pages you get to the exercise by clicking on the "Practice This Concept" button. When you stop in the middle of an exercise, it should remember how many problems you've done. Make sure you make an account and log in though!
You will stay on an exercise until you are proficient.

Addition and Subtraction with Positive and Negative Numbers

1. Basic Addition Go to the video and complete the exercise.
2. Basic Subtraction Go to the video and complete the exercise.
3. Addition 2 Go to the video and complete the exercise.
4. Subtraction 2 Go to the video and complete the exercise.
5. Addition 3 Go to the video and complete the exercise.
6. Subtraction 3: Introduction to Borrowing or Regrouping Go to the video and complete the exercise. You don't have to finish the whole exercise before moving onto #7.
7. Why borrowing works & Alternate mental subtraction method Finish the subtraction exercise from #6.
8. Addition 4 Complete the exercise "4 digit addition with carrying."
9. Level 4 Subtraction Go to the video and complete the exercise.
10. Subtraction Word Problem Complete the exercise "Addition and Subtraction Word Problems."
11. Negative Numbers Introduction and Ordering Negative Numbers Go to the videos and complete the exercise. When I list more than one video, they are both for the same exercise.
12. Adding Negative Numbers and Adding integers with different signs Go to the video and complete the exercise.
13. Adding/Subtracting negative numbers Complete the exercise "Adding and Subtracting Negative Numbers."
14. Complete the exercise "Negative Number Word Problems."

Multiplication and Division with Positive and Negative Numbers

1. Basic Multiplication and Multiplication 2: The Multiplication Tables Go to the videos and complete the exercise.
2. Multiplication 3: 10,11,12 times tables Go to the video and complete the exercise.
3. Division 1 and Division 2 Go to the videos and complete the exercise.
4. Dividing Whole Numbers and Applications 1 Complete the exercise "Division without Remainders."
5. Multiplication 4: 2-digit times 1-digit number and Multiplication 5: 2-digit times a 2-digit number Go to the videos and complete the exercise.

6.Multiplication 6: Multiple Digit Numbers Go to the video and begin the exercise. You don't have to finish all of them before you go on to #7.
7.Lattice Multiplication and Why Lattice Multiplication Works Finish the exercise "Multiplying 3 Digits by 2 Digits."
8.Multiplying Whole Numbers and Applications 4 and Multiplying Whole Numbers and Applications 6 Go to the videos and complete the exercise.
9.Division 3: More long division and remainder examples Go to the video and complete the exercise.
10.Level 4 division Go to the video and begin the exercise. You don't have to finish the exercise before moving onto #11.
11.Partial Quotient Division and Partial Quotient Method of Division 2 Finish "Multi Digit Division."
12.Place Value 1 and Place Value 2 and Place Value 3 Go to the videos and complete the exercise.
13.Rounding Whole Numbers 1 and Rounding Whole Numbers 2 and Rounding Whole Numbers 3 Go to the videos and complete the exercise.
14.Multiplying Positive and Negative Numbers and Why a Negative Times a Negative is a Positive and Dividing Positive and Negative Numbers Go to the videos and complete the exercise.

Number Properties

1.Commutative Law of Addition and Commutative Law of Multiplication Demonstrate the commutative law to a younger sibling (or someone else) using toys. (If I give you one car and one plane, you have a car and a plane. If I give you one plane and one car… If I give you a toy car two times, you have… If I give you two toy cars one time, you have…)
2.Associative Law of Addition and Associative Law of Multiplication Go to the videos and complete the exercise.
3.The Distributive Property Go to the video and complete the exercise.
4.The Distributive Property 2 Complete the exercise "Distributive Property."
5.CA Algebra I: Number Properties and Absolute Value Complete the exercise "Finding Absolute Value."
6.Complete the exercise "Comparing Absolute Values."
7.Identity Property of 1 and Identity property of 1 (second example) and Identity property of 0 Demonstrate with toys and explain the identity property to a younger sibling (or someone).
8.Inverse Property of Addition and Inverse Property of Multiplication Go the videos and complete the exercise.
9.Why Dividing by Zero is Undefined and Why Zero Divided by Zero is Undefined/Indeterminate and Undefined and Indeterminate Explain this concept to your mother.
10.Introduction to Order of Operations and More Complicated Order of Operations Example Go to the videos and complete the exercise.

Factors and Multiples

1.Prime Numbers (You can read my notes below to make it easier.) Go to the video and complete the exercise.

- A prime number can't be divided evenly (no remainder) by any number except itself and the number 1. Example: 7/7=1, 7/1=7 You can't divide 7 evenly by any number other than itself and 1.
- If it is even, then you can divide it by 2.
- If it ends in 5, then you can divide it by 5.
- If you can add up the digits and divide the sum by 3 or 9, then you can divide the whole number by 3

or 9. Example 69: 6 + 9 = 15 You can divide 15 by 3 so you can divide 69 by 3.

1. Recognizing Prime Numbers Go to the video and complete the exercise.
2. Recognizing Divisibility Go to the video and complete the exercise.
3. Common Divisibility Examples Complete the exercise "Divisibility Tests."
4. Divisibility Intuition Go to the video and complete the exercise.
5. Finding Factors of a Number Complete the exercise "Divisibility."
6. Prime Factorization Go to the video and complete the exercise.
7. Least Common Multiple and Least Common Multiple (LCM) Do NOT do the exercise on the video page. Complete the exercise "Least Common Multiple."
8. Greatest Common Divisor Do NOT do the exercise on the video page. Complete the exercise "Greatest Common Divisor."
9. Complete the exercise "LCM and GCD word problems."
10. The fundamental theorem of arithmetic Go to the video and complete the exercise.

Fractions

1. Numerator and Denominator of a Fraction Go to the video and complete the exercise.
2. Identifying Fraction Parts Go to the video and complete the exercise.
3. Equivalent fractions Complete the exercise "Equivalent Fractions."
4. Equivalent Fractions Example Go to the video and complete the exercise.
5. Comparing Fractions Complete the exercise "Equivalent Fractions 2."
6. Fractions in lowest terms Complete the exercise "Recognizing Fractions."
7. Comparing Fractions 2 Go to the video and complete the exercise.
8. Ordering Fractions Go to the video and complete the exercise.
9. Proper and Improper Fractions and Mixed numbers and improper fractions Go to the video and complete the exercise.
10. Converting Mixed Numbers to Improper Fractions Go to the video and complete the exercise.
11. Changing a Mixed Number to an Improper Fraction Complete the exercise "Comparing Fractions 2."
12. Comparing improper fractions and mixed numbers Complete the exercise "Comparing Improper Fractions and Mixed Numbers."
13. Changing an Improper Fraction to a Mixed Number Do NOT do the exercise on the video. Complete the exercise "Ordering Improper Fractions and Mixed Numbers."
14. Adding Fractions with Like Denominators Go to the video and complete the exercise.
15. Subtracting Fractions Do NOT do the exercise on the video. Complete the exercise "Subtracting Fractions with Common Denominators."
16. Finding Common Denominators Complete the review exercise "Greatest Common Denominators."
17. Adding Fractions with Unlike Denominators and Adding fractions (ex 1) Go to the videos and complete the exercise.
18. Complete the exercise "Subtracting Fractions."
19. Adding and subtracting fractions and Adding fractions with different signs Go to the video and complete the exercise.
20. Adding Mixed Numbers and Subtracting Mixed Numbers Go to the video and complete the exercise.
21. Adding Mixed Numbers with Unlike Denominators and Subtracting Mixed Numbers 2 Go to the video and complete the exercise.
22. Complete the exercise "Fractions on a Number Line 1."
23. Complete the exercise "Fractions on a Number Line 2."
24. Complete the exercise "Fractions on a Number Line 3."
25. Adding Mixed Numbers Word Problem and Subtracting Mixed Numbers Word Problem Complete the

exercise "Fraction Word Problems 1."
26.Adding subtracting mixed numbers 0.5 (ex 1) and Adding subtracting mixed numbers 0.5 (ex 2) Complete the exercise "Adding Subtracting Mixed Numbers 0.5."
27.Adding subtracting mixed numbers 1 (ex 1) and Adding subtracting mixed numbers 1 (ex 2) Complete the exercise "Adding Subtracting Mixed Numbers 1."
28.Multiplying Fractions Go to the video and complete the exercise.
29.Multiplying Mixed Numbers Go to the video and complete the exercise.
30.Multiplying Fractions and Mixed Numbers Complete the exercise "Multiplying Fractions."
31.Multiplying Fractions Word Problem Complete the exercise "Multiplying Fractions Word Problems."
32.Dividing fractions and Dividing Fractions Example Go to the video and complete the exercise.
33.Dividing Fractions Word Problem Go to the video and complete the exercise.
34.Reciprocal of a Mixed Number Read this lesson and answer the "Your Turn" questions at the bottom of the page.
35.Dividing Mixed Numbers and Dividing Mixed Numbers and Fractions Solve: 2 and 4/9 divided by 1 and 1/8. Convert the mixed numbers to improper fractions. Then multiply the first by the reciprocal of the second.

Fractions, Decimals and Percents

1.Decimal Place Value and Decimal Place Value 2 Complete the exercise "Understanding Decimal Place Value."
2.Decimals on a Number Line Go to the video and complete the exercise.
3.Rounding Decimals Go to the video and complete the exercise.
4.Estimation with Decimals Go to the video and complete the exercise.
5.Comparing Decimals Complete the exercise "Decimals on a Number Line 2."
6.Adding Decimals Go to the video and complete the exercise.
7.Complete the exercise "Adding Decimals."
8.Complete the exercise "Adding Decimals 2."
9.Subtracting Decimals Go to the video and complete the exercise.
10.Complete the exercise "Subtracting Decimals."
11.Subtracting Decimals Word Problem Do NOT do the exercise on the video. Complete the exercise "Adding and Subtracting Decimal Word Problems."
12.Multiplying a Decimal by a Power of 10 and Dividing a Decimal by a Power of 10 Go to the videos and complete the exercise.
13.Multiplying Decimals and Mulitplyling Decimals 3 Go to the videos and complete the exercise.
14.Dividing Decimals 2.1 Complete the exercise "Dividing Decimals 0.5."
15.Dividing decimal Go to the video and complete the exercise.
16.Dividing Decimals Complete the exercise "Dividing Decimals."
17.Decimals and Fractions and Converting Fractions to Decimals Example Go to the videos and complete the exercise on the first video.
18.Converting fractions to decimals (ex1) and Converting fractions to decimals (ex2) Go to this lesson and complete the "Your Turn" questions at the bottom of the page.
19.Converting decimals to fractions 1 (ex 1) and Converting decimals to fractions 1 (ex 2) and Converting decimals to fractions 1 (ex 3) and Converting decimals to fractions 2 (ex 1) and Converting decimals to fractions 2 (ex 2) Go to this lesson and complete the "Your Turn" questions at the bottom of the page.
20.Converting Repeating Decimals to Fractions 1 Go to the video and complete the exercise.
21.Converting Repeating Decimals to Fractions 2 Complete the exercise "Converting Decimals to Fractions 2."

22. Describing the Meaning of Percent and Describing the Meaning of Percent 2 Do NOT do the exercise on the videos. Go to this lesson and answer the "Your Turn" review questions at the bottom of the page.
23. Ordering numeric expressions Go to the video. Then read about ordering decimals and complete the "Your Turn" exercises.
24. Representing a number as a decimal, percent, and fraction and Representing a number as a decimal, percent, and fraction 2 Go to the videos and complete the exercise.
25. Points on a number line Go to the video and complete the exercise.
26. Converting decimals to percents (ex 1) and Converting decimals to percents (ex 2) Complete the exercise "Converting Decimals to Percents."
27. Read this lesson. Complete the exercise "Converting Percents to Decimals."
28. Identifying Percent Amount and Base Read this lesson and answer the "Your Turn" questions.
29. Solving Percent Problems and Solving Percent Problems 2 and Solving Percent Problems 3 and Growing by a percentage Go to the videos and complete the exercise on the last video.

Ratios and Proportions

1. Introduction to Ratios (new HD version) and Understanding Proportions Go to the videos and complete the exercise on the first video.
2. Ratios as Fractions in Simplest Form and Simplifying Rates and Ratios Complete this review exercise of "Simplifying Fractions."
3. Find an Unknown in a Proportion 2 Go to the video and complete the exercise.
4. Finding Unit Rates and Finding Unit Prices Take a notepad to the grocery store. Write the price and unit price as well as the measurements (eg. 4 ounces) for five different products. You'll find the info on the tag. The unit price is written small. At home see if you can take the product price and come up with the same unit price as the store.
5. Unit conversion and Speed translation Go to the videos and complete the exercise.
6. Converting units of length Measure something in centimeters and inches. Write them as a proportion. Measure something just in inches and use the proportion to figure out what the measurement is in centimeters. Now measure it in centimeters and see if you were right.
7. U.S. Customary and Metric units Watch this if you don't know what they are.
8. Conversion between metric units and Converting within the metric system Make a chart for milliliters, liters, kiloliters; millimeters, centimeters, meters and kilometers; milligrams, grams, kilograms. Your chart should show how many of each are in the other.
9. Converting Gallons to quarts pints and cups Make a chart for gallons, quarts, pints and cups that shows how many are in each other.
10. Converting pounds to ounces Find out how much you weighed when you were born. Figure out how much you weighed in ounces.
11. Comparing Celsius and Fahrenheit temperature scales 0 (zero) degrees Celsius is the same temperature as 32 degrees Fahrenheit. 100 degrees Celsius is the same temperature as 212 degrees Fahrenheit. Can you figure out how to get from one to the other? After you've thought about it, find the formula online or on the video. Plug in 0 and 100 and see if you get 32 and 212.
12. Converting Farenheit to Celsius Take today's temperature in Fahrenheit and figure out today's temperature in Celsius.

Exponents

1. Understanding Exponents and Level 1 Exponents Go to the videos and complete the exercise.

2.Level 2 Exponents Go to the video and complete the exercise.
3.Level 3 exponents Go to the video and complete the exercise.
4.Exponent Rules Part 1 and Exponent Rules Part 2 Go to the videos and complete the exercise.
5.Understanding Square Roots Go to the video and complete the exercise.