



*The Dominican*  
COMMUNITY *of* SCHOOLS

## Junior High Summer Math Challenge

### Point Requirements

**Rising 7th:** Minimum of 100 points

**Rising 8th:** Minimum of 110 points

### 1 point each:

1. Teach your parents one skill that you learned in Math class last year. Then make a quiz for them to take.
2. Write a paragraph about how you used Math on your vacation.
3. Write 3 story problems involving fractions. Have someone solve the problems. Check their answers.
4. Complete a Sudoku puzzle.
5. Find the perimeter or area of any room in your house.
6. Swim as many laps as you can and measure your distance and time yourself. What was your average speed?
7. Calculate a 20% tip at a restaurant.
8. Interview 3 people about how they use fractions in their daily lives.
9. Ask a parent or adult to explain 3 ways he/she uses math at work in their daily lives.
10. Time your daily activities. Make a pie graph representing the time spent doing each activity.
11. Run a race. Measure the distance and time yourself. Calculate your pace/speed.
12. Count how many times you can jump rope or jump on a trampoline in one minute. Then calculate how many times you could jump in 10 minutes, or an hour, or a day.
13. Complete a grocery store shopping experience (1 point each).
  - a. Keep a running estimate of the total cost of the groceries.
  - b. Estimate, then calculate, the sales tax on the total cost of the groceries.

## 1 point *continued...*

14. Complete a scavenger hunt. Find the following and take a picture of each (1 point each, up to 10 points):

- a. right angle
- b. acute angle
- c. obtuse angle
- d. a set of parallel lines
- e. rhombus
- f. trapezoid
- g. a pair of vertical angles
- h. a pair of supplementary angles
- i. a pair of complementary angles

**\*Bonus:** A transversal crossing parallel lines (1 point)

15. Compute the mean screen time (from your iPhone) for the month of June or July

16. Measure how far you can walk your dog in one minute. At this rate how far could you walk the dog in 10 min, one hour, 24 hours?

17. Build a boat and test it to see how well it floats.

## 5 points each:

18. Collect extra change for the month of June or July. Count it, wrap it, donate it to a charity.

19. Make a list of ten different gas prices that you see while you're on a road trip. Calculate the mean gas price.

20. Complete a Khan Academy "exercise" or "quiz" for the grade level that you just completed and score 80% or higher.

21. Play Yahtzee once a week for four weeks (total of 20 points).

22. Practice your reasoning skills for 30 minutes at <http://solveme.edc.org/>

23. Build a sandcastle. Find its perimeter, area, and volume.

24. Calculate how many minutes or seconds are in a day, a month, **or** a year. Estimate how much time you spend doing 3 different activities each day (like watching TV, eating, and sleeping). Calculate how much time you spend each year doing that activity. What percent of the year do you spend doing each activity?

25. Attend or participate in a sporting event. List all the ways that you used (or saw) math. Discuss this with a friend or family member.

## 10 points each:

26. Complete a LEGO challenge (1 point each, up to 10 points)

- a. Build the tallest tower you can and measure it
- b. Build something that moves
- c. Build something that performs a task (a tool or machine)
- d. Build something that shows a color and/or shape pattern
- e. Build something that flies
- f. Build something that shows a color and/or shape pattern
- g. Build something that flies
- h. Build a model of your house or room
- i. Build a robot
- j. Build a maze

27. Keep a journal for one week. At the end of each day, write about all of the ways you used (or saw someone use) math that day.

28. Complete an “exercise” or “quiz” on Khan Academy for the grade level that you will be in **this fall** (and score 80% or higher)

29. Run a lemonade/popsicle stand for a day and count your money. Find your “profit.” Donate your earnings to a good cause.

30. Bake something using measuring cups. Cut the recipe in half or double it.

31. Complete a “unit test” on Khan Academy for the grade level you just completed.

32. Help an adult with a project that uses math ( i.e. building something). Have a discussion about what you noticed.

33. Complete a “task” at YouCubed.org (Click “*tasks and more*” then “*tasks*”).

34. Plan a meal for your family. Compute the cost of one serving of each item. (Many stores have websites listing costs so that you do not have to go to the grocery store).

35. Measure the amount of water you drink for a week. Convert the amount from ounces to pints, quarts, and gallons.

## 25 points each:

36. Read any book from the mathicalbooks.org award winners found here <http://www.mathicalbooks.org>.

37. Read a book written by Theoni Pappas from the list below:

- a. *The Adventures of Penrose the Mathematical Cat*
- b. *The Further Adventures of Penrose the Mathematical Cat*
- c. *Fractals, Googols, and Other Mathematical Tales*
- d. *Math for Kids & Other People Too!*
- e. *Do the math!: math challenges to exercise your mind*

## 50 Point Challenge!

38. **COMPLETE** the *How to Learn Math-Student Course* at YouCubed.org found here: <https://www.youcubed.org/online-student-course/>.

