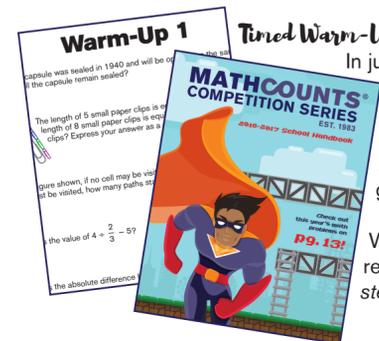# MATHCOUNTS®

Short, High-Impact Activities to Make Every Minute Count

Making the most of your time with your students—whether in the classroom, math club meetings or team practices—can be a huge challenge. Below are a few great activities from the **MATHCOUNTS Competition Series**, which require little or no preparation, can be explained to your students quickly, and provide a high-level of engagement and learning in just a few minutes.

Timed Warm-Up: Warm-Ups are 10-question problem sets in the 2016-2017 MATHCOUNTS School Handbook. In just 10-15 minutes, your students will boost their problem-solving and mental math skills, while reviewing numerous math concepts. Warm-Ups are designed to be answered pretty quickly and without a calculator, so getting started is easy!

And if you have a few more minutes, make this a collaborative activity by letting students work in groups, playing a game to review the answers or reviewing the solutions together.

Warm-Ups are available for free download at www.mathcounts.org/handbook. Plus, if you already registered for the Competition Series, you can access this year's Warm-Ups, *as well as full step-by-step explanations of how to solve each problem*, at **www.mathcounts.org/coaches**.

Problem of the Week: Each week MATHCOUNTS releases a multi-step problem related to a current event, holiday or season. The Problem of the Week is a great way to start math class or a team practice. Students can work on one part of the problem or the entire set. Best of all, the solutions for each problem set are released the following week.

Both the Problem of the Week and solution can be downloaded for free at **www.mathcounts.org/potw**. Registered competition coaches also can access this resource at www.mathcounts.org/coaches.

Every week, a new and fun problem to solve!

Not Registered Yet? You can sign up your school at www.mathcounts.org/compreg. Register by November 18, 2016 to get discounted registration rates—starting at just $25 ($12.50 for Title I schools)!

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Look inside for your FREE POSTER!

5 Sure-Fire Activities to Put the Try in Geometry

A student tries to solve a problem. The answer doesn't come immediately to him. He throws up his hands and declares with frustration "I can't do this! I'm so bad at math." Practically every math teacher is familiar with this scenario. We know mistakes and perseverance are essential parts of the learning process...but how can we foster this way of thinking in our students?

Here are 5 of our favorite free geometry activities from **the National Math Club** that encourage students to keep trying. If you already registered for the National Math Club this year, you can access all of these at **www.mathcounts.org/clubleaders**.

1 Reflection Battle: a fun, easy-to-explain game to reviews symmetry, reflections and even coordinate geometry. Your students will have so much fun trying to hit each other's "asteroids" that they won't realize they're doing geometry. Because missing the target is part of the game, your students will keep trying new strategies over and over...and they'll learn a lot in the process.
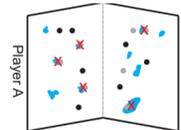
Player A   Player B
Figure F

2 Fence Me In: a fast-paced, fun game that reviews area and perimeter, with some problem-solving added to the mix! With a mixture of luck and skill, students of all levels have a chance to win as they try to fill up the gameboard...and block their opponent at the same time. Your students will be eager for their next turn in the game and won't dread area and perimeter anymore.
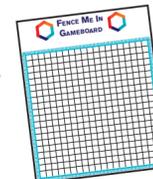
3 The Symmetry Championship: a set of symmetry puzzles perfect for a quick classroom activity or a whole-group competition. Students have to think about symmetry in a new way and apply their knowledge, but are driven to keep trying and feel encouraged as they start to place pieces in the puzzle. Three different levels also allow you to differentiate for all levels.
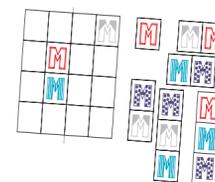
4 Proofigami: part origami, part mathematical proof, this fun hands-on activity is ideal for small groups. The Pythagorean Theorem can be a challenging concept for many students; instead of giving up and just memorizing a formula they do not understand, your students will be able to explain why the Pythagorean Theorem is true.

Fig. 15
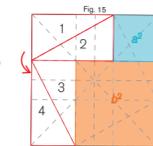
5 Connect the Dots: new this year, this activity takes a familiar favorite and turns it into an activity to practice rotations, reflections and transformations; writing x- and y- coordinates of points and using slopes and the slope-intercept form of lines. Students will feel more motivated to try so they can see their final product!
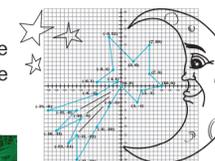
Not Registered Yet? You can sign up for free (yes, for free!) at www.mathcounts.org/clubreg. We'll ship you what we call a Club in a Box kit, full of hands-on materials and the *2016-2017 Club Activity Book*, plus give you online access to the 5 activities above and hundreds of other resources exclusively for club leaders.

Unleash Student Creativity Through Math

If you did a free word association quiz with your students and asked them to name the words they immediately associate with "math," chances are "creativity" would be pretty low on the list. But math can be creative...and fun, collaborative and artistic! Helping all of your students unlock their full potential in math can be challenging, but tapping into your students' other interests and talents is a great starting point.

That's where the **Math Video Challenge** comes in! Instead of typical math, students work in groups to create their own video that explains the solution to a MATHCOUNTS problem and demonstrates a real-world application of mathematics. The Math Video Challenge lets students take math anywhere, and past videos have shown how math is used in sports, college admissions, game shows, video games and even imaginary lands far away.
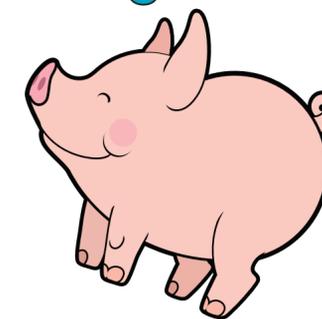
Not Registered Yet? Learn more and sign up for free (yes, for free!) at videochallenge.mathcounts.org.

MATHCOUNTS provides numerous program materials for free online, including:

Math Video Challenge Playbook: from registration to video submission, the playbook is the primary program resource. Included in this free book are 250 math problems, a step-by-step Producer's Guide to creating a video, registration and video uploading tips and tools to help your students brainstorm and map out their story. Download at **videochallenge.mathcounts.org/playbook**.

Archive of Winning Videos: see the past semifinalist, finalist and winning videos from every year of the Math Video Challenge. Watching past winners is a great way for students to get video ideas. See examples of other student-made projects at **videochallenge.mathcounts.org/winners**.

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2 free posters!

Every registered educator in the National Math Club or MATHCOUNTS Competition Series gets a free math poster!

What is the length of the _shortest_ path _Plumpkin Spice_ can walk starting from _B_ and walking along each segment _at least once_ in equilateral triangle ABC?

Express your answer in simplest radical form.

A

2 ft

B

D

C
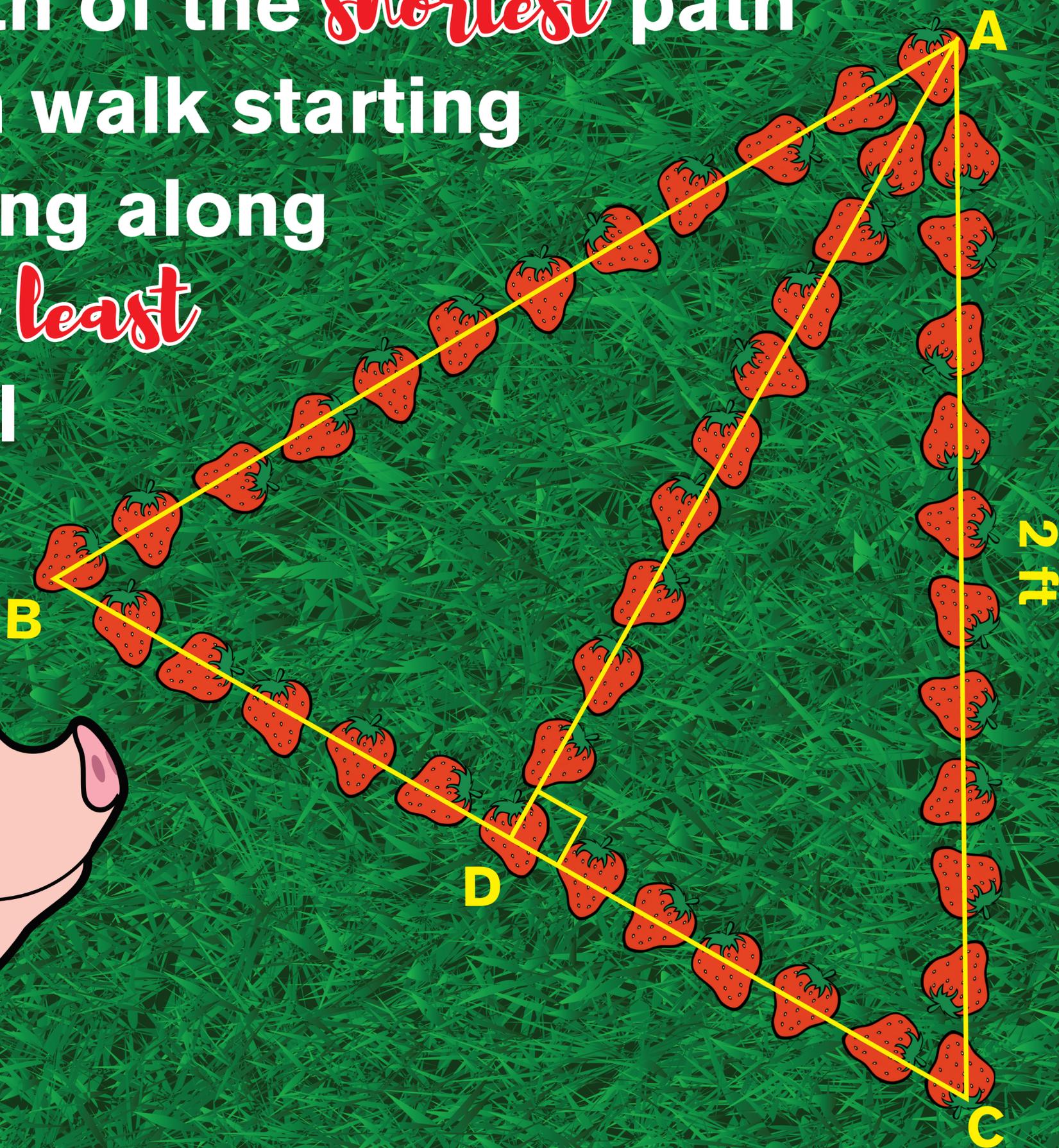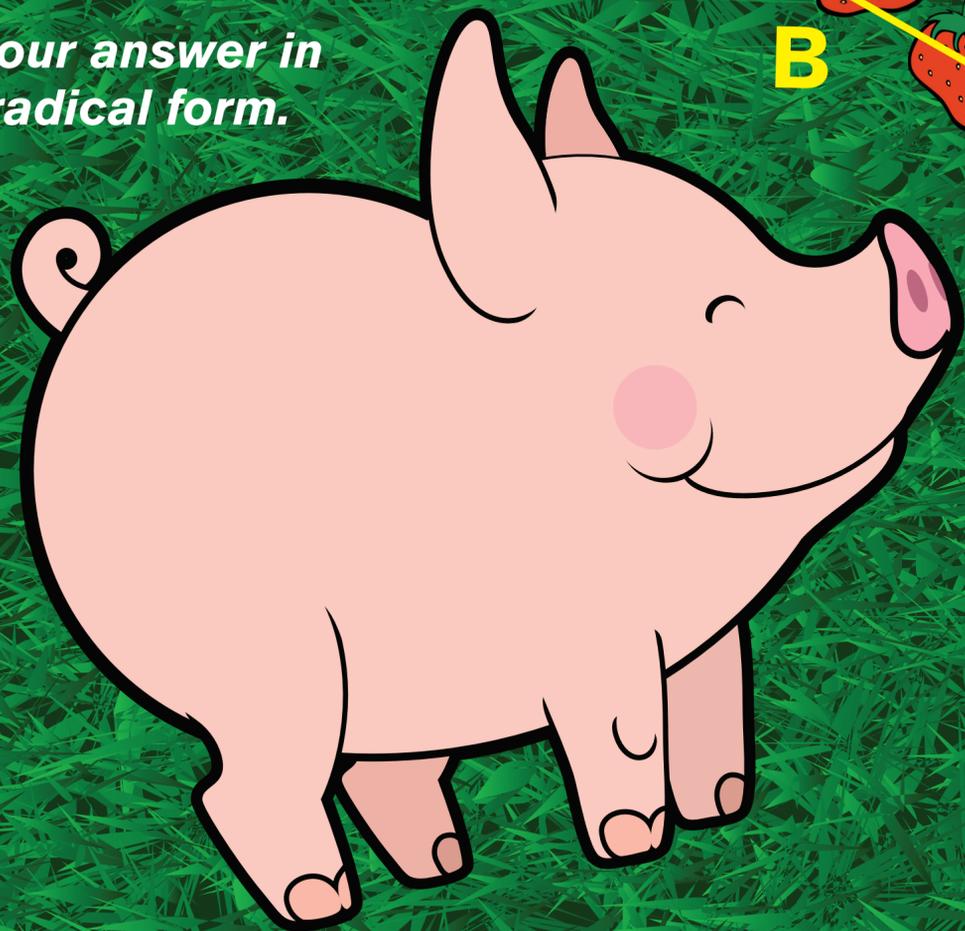
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