

Warm-Up! 😊 Jenny

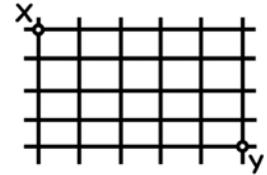
1. _____ ways



Allie's mom is at the candy shop. Her daughter, Allie, loves lollipops. She wants to include 10 lollipops in Allie's Christmas present. In how many ways can Allie's mom choose 10 total lollipops from the flavors: orange, berry, pineapple, pomegranate and lime? The candy store has at least a hundred of each flavor.

2. _____ paths

Emily likes to plan out her route to school every morning. How many distinct paths are there from X (her home) to Y (her school)? She has to travel either east or south each block.



3. _____ cm

The radius of the circle inscribed in equilateral triangle BUG is $\sqrt{3}$ cm. What is the side length of equilateral triangle BUG?

4. \$ _____

Madison is the owner of a boutique. She buys a designer outfit from a clothing retailer and plans to sell it for 60% more than the price she bought it for. However, no one buys it. She decides to lower the selling price by 16 dollars. Another few months go by and the outfit is still not sold, so Madison again lowers the selling price by 25 percent. It is sold, and she makes a profit of 30 dollars. For how much did she buy it from the retailer? Express your answer in dollars and cents.



5. _____

The expression $\sqrt{10 + 2\sqrt{21}}$ can be expressed in the form $\sqrt{a} + \sqrt{b}$ where both a and b are integers. Find the positive difference between a and b.

6. _____ mph

Mr. Wilson likes to fly his supersonic Algebra Rocket to Venus. He can fly at an average speed of 1,000 mph on a nice day with no solar wind. He can ride the same distance with headwind in 3 hours and with tailwind in 1 hour. What is the speed of the solar wind? Assume the speed of the wind is constant.



7. _____

Compute the units digit of the sum of 2009^{2010} and the 23rd triangular number.

8. _____

What is the coefficient of x^3y^2 when $(x + y)^5$ is expanded?

9. _____ games



Mr. Batterson's chess academy has a total of 215 students. He is hosting a chess tournament for the academy's students. All of the students will participate. Each game is played between 2 players, and the loser is eliminated while the winner advances. How many games must be played to determine a single winner? Assume that there will be no ties.

10. _____ degrees

In the picture shown, arc CBD is a semicircle. Point O is the center. Angle EOD is 60 degrees. Length AB is equal to length OD. What is the degree measure of angle BAO?

