

MathEdge



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Creating Sharp Minds for Sharp Solutions

December 2015

NEWS

INSIDE THIS ISSUE:

Advance/Challenge TestPrep!

CCSS Math/PreAlg/Algebra/Geometry/Alg2+Trig/PreCalculus

In the Cupertino School District, current 5th and 6th grade Diagnostic for advancement tests will be covered in Common Core. This is the only chance to progress into the "CCSS 6th / 7th / 8th Algebra + Geometry" advanced track (regularly 9th grade). Let us help you advance.

This advance Placement Test Prep is designed for students who have learnt the concepts and wish to exercise on tests which help scoring high on the placement / diagnostic tests given by school. To maximize the effectiveness, the guided program is designed so students may exercise on different concepts at their own pace. This flexibility allows students to focus on improving the areas of their own weakness.

Course readiness may be assessed before joining.

Duration: 10 weeks, 2 hours/week

Fee: \$649/session

Cupertino Site

Day & Time: Sun 10am | 1pm | 3pm

Winter: 12/13/15 - 3/6/16 (Excludes 12/27/15, 1/3/16, 2/4/16)

Spring: 3/13/16 - 5/22/16 (Excludes 4/19/16)

Register online here: <http://mathedge.org/placementtestreg.html>

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THIS MONTH:

12/20—Last day of class

12/25—Merry Christmas!

1/10—Open House



Winter Open House

JAN 10, 2016 (Sun) 10:00AM-12:00PM

FREE AP Computer Science Sample Test (new students only) - must sign-up for an half-hour timeslot at mathedge.org

CODE+: Java, JavaScript, HTML with CSS, Computer Science AP Prep (G6+, 10 weeks 3 hrs weekly) - Get trained to be a seasoned programmer. Step into the world of Object-Oriented programming and web design & development.

Middle School Advance Placement /Common Core/ERB/ISEE Test Prep (CCSSG5-8 | preAlgebra | Algebra | Geometry | Algebra2+Trig | PreCalculus) - Many of our students improved their test scores by at least 10-20% and advanced in school math.

At Cupertino Location: 7250 Bark Lane

JAN 17, 2016 (Sun) 10:00AM-12:00PM

FREE English Test (GK-8, new students only) - must sign-up for an half-hour timeslot at mathedge.org

Writing+: Polish Your Writing Skills (GK-12, Sept-Jun) This program aims to educate students on perfecting their writing techniques and cultivating stronger writing skills through various types of compositions (narrative, expository, persuasive, etc)

MathEdge+: Sharpen Problem Solving Skills and Excel in Math Competitions (GK-12, Sept-Jun) (for advanced students) This program teaches valuable problem solving skills, critical reading, logical math, written and oral presentation skills.

Math&EnglishCore: Get Prepared for Common Core! (GK- 8) (Year Round) This is a guided program created to help students achieve day-to-day success and ace their common core tests in school.

Enriched Afterschool Programs (Mon-Fri 3-7pm) (GK-8, Sept-Jun)

At Cupertino Location: 7250 Bark Lane

Armored Vehicles

Research Paper By: Shrutik Kanukuntla (W2)

Have you ever wondered about armored cars? Well, I will tell you about them. Armored cars can be divided into four basic types. The four basic types are SUVs/Sedans, Cash in Transit vehicles, Police/Swat/Tactical vehicles, and Military vehicles. A variety of weapons may also come into play sometimes. Military vehicles have the heaviest armor.

Leonardo da Vinci made a sketch of an armored car in 1485. Armored cars were one of the helpful things in World War I and II. They were helpful because whenever a soldier shoots a bullet, the car will block it. This is helpful because whenever a soldier shoots a bullet, the car will block it. This is valuable because the armored car won't be destroyed easily, and it has the ability to damage the enemy.

To armor a vehicle, first you have to have a suitable vehicle to armor. In some cars, you can armor the battery. Some famous vehicles are the 1930 Mercedes Benz. Mercedes presented the armored vehicle to Pope Pius XI.

The future of armored cars is in a polyethylene product called Dyneema. The military is the only customer that can afford Dyneema. It is a modern product made of composite fiber and is lighter than thick steel, but costs three times as much as steel.



The Last Play

Story By: Andrew Yang (W3)

These were the moments that Arthur "Flash" Davis lived for. Arthur's team was down four points and facing fourth and ten. The game relied on this last play. As he went to his position, he could feel the sweat rushing down his back. This was the moment of truth.

Back when the local football league was formed, Arthur gathered some of his friends and tried out for the team. They were dominant during the regular season, finishing with a 8-2 finish. Now the Rockwell Rams were playing for the championship against their rivals, the Parkerville Patriots.

In the first quarter, things were going quite well for the Rams. They had gotten some stops, and Arthur threw for two touchdowns. The Patriots responded by driving down the field and scoring a touchdown. On their next possession, the Rams had reached mid-field, but were forced to punt. That ended the first quarter.

Things were less exciting in the second quarter. Both teams had good drives, but failed to score. Parkerville managed to get a field goal in the third quarter. They also managed to keep the Rams from the red zone. During the break between quarters, the Rams' coach said, "We need to get our offense in the rhythm again. Additionally, stops are crucial to our success."

To start off the fourth quarter, the Parkerville quarterback faked a handoff, straightened up, and threw to his tight end for a thirty-yard gain.

"Hey!" called Arthur, "It's just one play. We're still in this." But the Patriots were making plays like that one on almost every down. They ended up finding themselves on the Rams' ten yard line. As much as the defense tried, they couldn't stop the Patriots. At the kickoff, the Patriots squib-kicked the ball past mid-field. In the huddle, Arthur told his team, "We didn't come all this way to lose. We'll be fine as long as you trust each other to make the right decisions. It's our time to shine." He then looked to his coach for the plays. It was a simple hook to the right side, then the same to the left side. After the receiver on the left caught the ball, he stepped out of bounds, and was tackled. That forced them to call their last timeout. They tried again, and this time Arthur stepped out of bounds after the first down. The next play was a bust. Arthur tried to force a pass between two defenders. He also under threw on a second down. On the third down, he had to throw the ball out of bounds to avoid the sack. They were facing fourth and ten with time for one last play.

Arthur called a Hail Mary. As the play started, he started scrambling around, buying time for his receivers. Then, he threw the football as far as he could to his most trusted pass-catcher, Sam Brown. As Sam jumped up, he caught it and landed in the back of the end zone. The referee signaled a touchdown. Everyone started to flood Sam. After the final seconds of the game, Sam decided to give the ball to Arthur as a memory.

In the next couple years, Arthur was recognized for his remarkable play. He also drew the attention of many colleges, and even a few NFL teams. He decided to not worry about the future awaiting. Instead he lived in the present, and continued to play the way he could.



All about Snakes Research Paper By: Isaac Sun (W1)

Hello! My name is Isaac. I am going to tell you facts about snakes. A snake's backbone is made out of many vertebrae attached to its ribs. Humans have approximately 33 vertebrae and 12 pairs of ribs. Snakes have about 200-400 vertebrae with as many ribs attached. This is what makes them so flexible and helps them move along. All those bones and the strong muscles protect the internal organs. The throat of the snake takes up one-third of the body. It leads to a very long stomach, which like the throat, will stretch to the size of whatever the snake is eating.

All reptiles are cold-blooded, which means that they do not produce their own body heat. They live on every continent except for Antarctica, where they would die of extreme temperatures. There are two countries in which snakes do not live in: Ireland and Bermuda, both of which are islands. Snakes can live in deserts, rainforest, oceans, and other environments. The common brown snake lives in deserts, while the green python lives in rainforests. The sea snake lives in oceans.

Snakes feed on a variety of things, which include termite rodents, birds, frogs, small deer, and other reptiles. Snakes eat their prey whole and are able to consume their prey three times larger than the diameter of their head because their lower jaw can separate from the upper jaw. To keep prey from escaping, snakes have rear-facing teeth that hold their prey in their mouth.

Many snakes, such as rattlers and garter snakes sleep during the winter. Why do they do this? In many parts of the world, winter is too cold for snakes. Sometimes more than one species of snakes will share a den and sleep through the winter. While snakes hibernate, their body temperatures drop, and they stay fairly still. Hibernating snakes use up very little energy and do not have to worry about eating food. When spring arrives, they come out of their dens to warm up and eat.



Black Holes

Expository Essay By: Herish Panda (W3)

What is a black hole? A black hole is a region in space where the pulling of gravity is so strong that light is not able to escape. A common type of black hole is produced by certain dying stars. Bigger black holes are formed by two black holes colliding with one another. There are a few ways black holes are formed.

The main way black holes are formed is when gravity makes the star implode (when the star has no more energy to withstand gravity). The other way is when two dense objects, like neutron stars, collide with one another. Sometimes a star collapses and turns into a black hole. NASA is a famous agency that studies black holes and how they are formed.

NASA studies black holes by using spacecraft like the Chandra X-ray Observatory, the Swift Satellite and the Fermi Gamma-ray Space Telescope to observe black holes. These spacecraft help scientists answer questions about the origin, the evolution, and the destiny of the universe. But black holes are "black," so how do we find them?

Scientists find black holes by studying a star's motion to find out if it's orbiting a black hole. When a black hole and a star are close together, high-energy light is produced. Scientific instruments can see this light. Also, a gas from the accretion disk spirals towards the black hole, it heats to very high temperatures and releases X-rays all over. NASA telescopes measure the X-ray light.

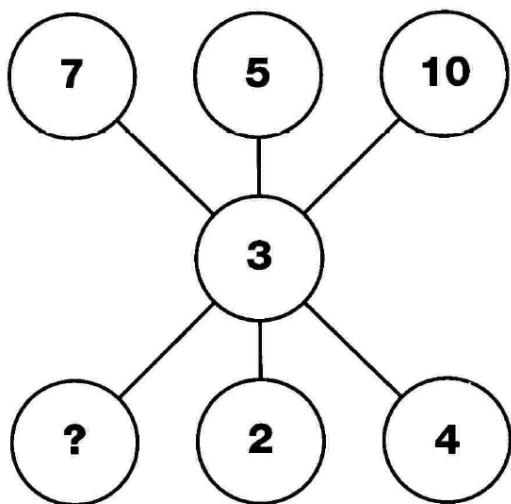
In conclusion, black holes either are formed by stars dying or collisions between stars. Also, scientists find and observe black holes and how they are formed. We have not tested some things about black holes because they might be dangerous.



Puzzle of the Month

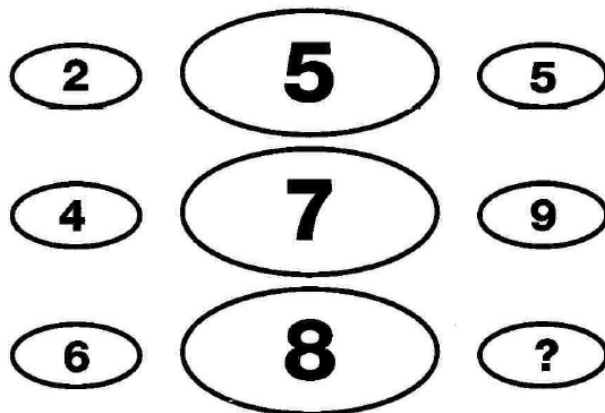
Puzzle #1

What number is missing?



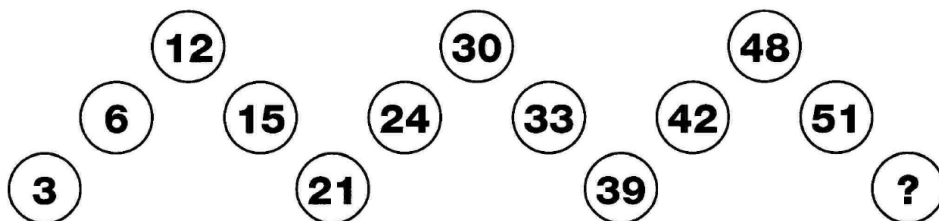
Puzzle #2

What number completes the puzzle?



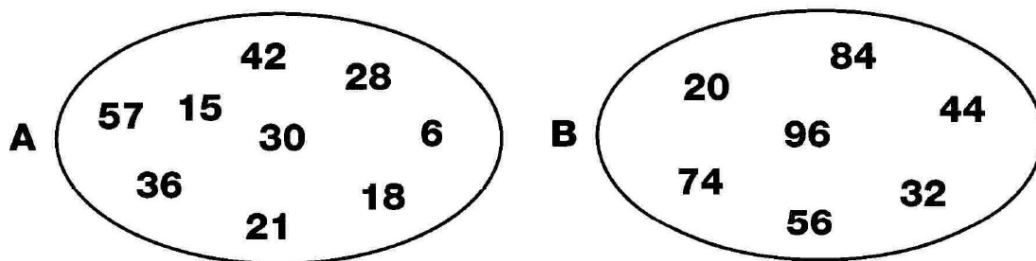
Puzzle #3

Following a logical sequence, complete the puzzle.



Puzzle #4

Which numbers are the odd ones out in these selections?



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