

# POLICE MATHEMATICS

By: Amanda Bennett



+

World of Stock

$$\psi_i \cos(\alpha_i \pm \omega t) = \Phi \cos(\dots)$$
$$\Phi = \sum_i \psi_i + 2 \sum_{j>i} \psi_i \psi_j$$
$$\int x(t) dt = \frac{x(t)}{dt^n} = (\omega)^n$$
$$u - \frac{1}{v^2} \frac{\partial^2 u}{\partial t^2} + \frac{\partial^2 u}{\partial x^2} + \frac{\partial}{\partial t}$$
$$v = \sqrt{\left(\frac{g\lambda}{2\pi} + \frac{2\pi\gamma}{\rho\lambda}\right) \tan b}$$
$$= \int_{-\infty}^{\infty} (\alpha(k) e^{i(kx - \omega t)})$$
$$\Phi \cos(\dots)$$
$$E = mc^2$$

# DO POLICE USE MATH?

- ▶ The answer is YES!
- ▶ They use math for all sorts of things with equations. For example when there are no witnesses at a crime scene they use math to figure out who's at fault.
- ▶ They also use math to come up with different scenarios to a situation and as more evidence is found they rule out other problems to use in the court rooms.

# WHOSE FAULT WAS IT?

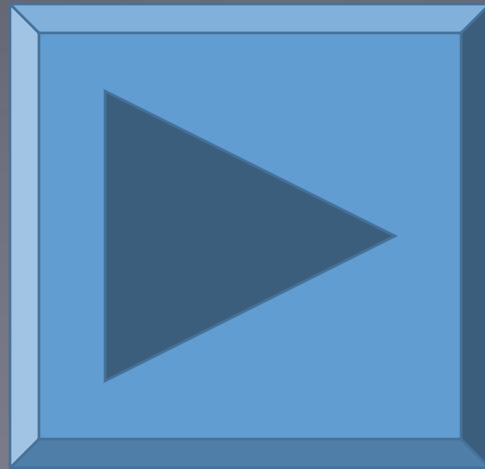


# HOW POLICE DO IT

- ▶ In an accident like the previous picture they use special precautions to figure out what really happened.
- ▶ They look for skid marks and measure them.
- ▶ Then use a certain formula  $S = 15.9 \sqrt{df}$
- ▶ To figure out if the accident was preventable.

# THE VIDEO SHOWS HOW POLICE USE MATH FOR CAR ACCIDENTS.

- ▶ [https://www.youtube.com/watch?v=d8nPIBKiaUM&safety\\_mode=true&persist\\_safety\\_mode=1&safe=active](https://www.youtube.com/watch?v=d8nPIBKiaUM&safety_mode=true&persist_safety_mode=1&safe=active)



# OTHER THINGS POLICE USE MATH FOR



$$h(x) = \int f(x - y)g(y)d^2y.$$

# MATH HELPS A LOT!

- ▶ There is a television show called *Numbers* that is about a mathematician that helps his brother who is a cop to solve crimes. (fact)
- ▶ Helps find the quickest route to a citizen in trouble. (Geometry)
- ▶ Find out how many crooks you need to bust to make your town twice as safe. (Algebra)
- ▶ In order to become a cop you need to pass a test and math is required part. (fact)



# CLIP EXPLAINING T.V SHOW NUMB3RS AND WHY MATH IS IMPORTANT FOR POLICE WORK

- ▶ [http://www.cbs.com/primetime/numb3rs/video/?pid=nnt2Yjdax\\_dwVS99SuqdJnoh7pUukC\\_f&nrd=1](http://www.cbs.com/primetime/numb3rs/video/?pid=nnt2Yjdax_dwVS99SuqdJnoh7pUukC_f&nrd=1)



# EXAMPLE QUESTION

- ▶ The members of the traffic enforcement division issued the following citations during a recent six-day period. Officer Millett issued 33 citations. Officer Rodgers issued 108 citations. Officer Smith issued 40 citations. Officer Bryd issued 24 citations. How many citations were issued by the two traffic enforcement officers writing the most citations for this time period?
  - ▶ (A) 143
  - ▶ (B) 75
  - ▶ (C) 134
  - ▶ (D) 148

# THE ANSWER IS D

- ▶ Because...

- ▶  $108 + 40 = 148$



**Learn How To Pass The Police Officer Exam,  
Using Our Step-By-Step Police Test Study Guide  
That Will Send Your Name Right To The Top Of  
The Hiring List!**

**If You've Ever Wanted To Learn a Sure way To Pass The Police Exam,  
Look No Further. Right Here, On This Web Page, You'll Discover a  
Success System That Will Boost Your Test Score, Build Confidence, and  
Skyrocket Your Name To The Top Of The Eligibility List ... 100%  
Guaranteed!**

**Dear Police Applicant,**

If you have decided to pursue a career in law enforcement and become a police officer, you need to know a couple of crucial facts before you start the process:

**First...** When it comes to passing the Police Written Exam, nobody cares what kind of grades you got in High School or College—and nobody cares if you made the Dean's List or graduated with honors. It doesn't matter!

**Second...** If you're not 100% ready to absolutely "ACE" your police oral interview...or if you're thinking that just passing is enough to get you hired...you are COMPLETELY misinformed. PERIOD!

**The Police Exam is a world of its own—with its own rules.**



# TIPS FOR POLICE

- ▶ Know your basis math's
  - ▶ simple arithmetic, fractions, decimals, percentages, and even algebra and geometry
- ▶ Be able to translate it word for word from English statements into mathematical statements.
  - ▶ Mike has 5 fewer cats than twice the number Jan has.
    - ▶  $M = 2J - 5$

# THE END



[www.bigstock.com](http://www.bigstock.com) · 853310

# WORK CITED

- ▶ <http://mathcentral.uregina.ca/beyond/articles/RCMP/traffic.html>
- ▶ <http://passthepolicetest.com/police-written-exam/police-test-math-questions-get-sample-mathemetic-questions-for-the-police-exam>
- ▶ <http://plus.maths.org/content/os/issue37/features/budd/index>