

VICTORIA PARK COLLEGIATE INSTITUTE

MATHEMATICS



Mathematics is used as both a **language and a tool to explore the universe**; alongside this its **applications** include analyzing trends, making predictions, quantifying risk, exploring relationships and interdependence.

These two different facets of mathematics may seem separate, but they are often deeply connected.

McGraw-Hill Ryerson
**Principles of
Mathematics 9**

McGraw-Hill Ryerson
**Principles of
Mathematics 10**

McGraw-Hill Ryerson
Functions 11

McGraw-Hill Ryerson
**Functions and
Applications 11**

McGraw-Hill Ryerson
**Foundations for
College Mathematics 11**

McGraw-Hill Ryerson
**Advanced
Functions 12**

McGraw-Hill Ryerson
**Calculus
and Vectors 12**

McGraw-Hill Ryerson
**Mathematics of Data
Management**

McGraw-Hill Ryerson
**Foundations for
College Mathematics 12**



3. MATH CONTESTS



Canadian Mathematical Society

THE CANADIAN OPEN MATHEMATICS CHALLENGE (COMC)

- ✓ **Zone Champion** for consecutive years
- ✓ Our top ranking students were invited to write the Canadian Mathematical Olympiad



The CENTRE for EDUCATION
in MATHEMATICS and COMPUTING

CEMC UNIVERSITY OF WATERLOO MATHEMATICS CONTESTS. (PASCAL, CAYLEY, FERMAT, EUCLID)

- ✓ Ranking school: Scores consistently in the **top 25th percentile**
- ✓ **50-60%** of our students consistently perform at **level of distinction**



The CENTRE for EDUCATION in
MATHEMATICS and COMPUTING
University of Waterloo
Waterloo, Ontario, Canada
www.cemc.uwaterloo.ca



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4. MATH CLUB

MATH AND MENTORING AND COACHING

I ♥ MATH

BRAIN TEASERS

Juniors (Gr.9-10)

Where: Rm. 229

When: Tuesdays @ Lunch
What: Learning ahead, practicing for math contests, homework help, in-club competitions, card games, guest speakers... the list goes on. As long as its math related, chances are we'll be doing it at one time or another, so drop by :)

Seniors (Gr.11-12)

Where: Rm. 233

When: Tuesdays @ Lunch
What: <= See Left Side :) The only difference is we'll be tackling harder questions and content (including IB material)

MATH CONTESTS

COMP 2013, RM. 229, before starting to learn to solve problems in a contest. For those who don't, it will prove a challenge. The point is to learn to solve problems in a contest. For those who don't, it will prove a challenge. The point is to learn to solve problems in a contest.

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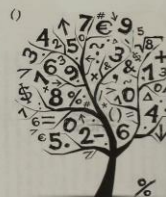
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Seniors (Gr.11-12)

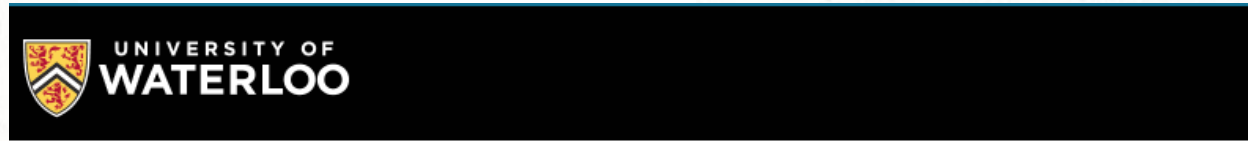
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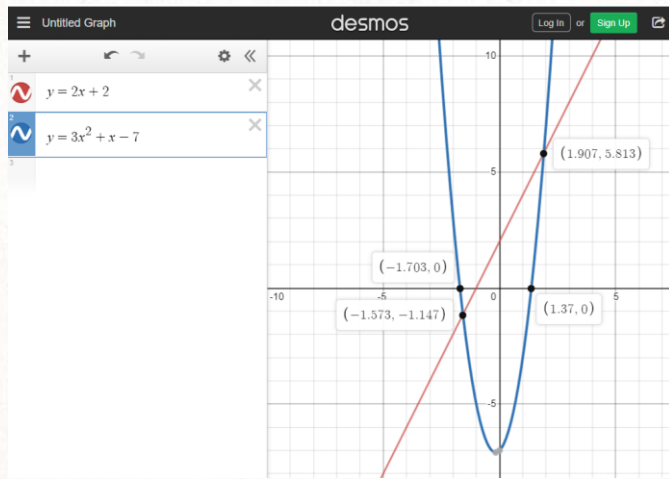






The CENTRE for EDUCATION in MATHEMATICS and COMPUTING





QR2-02-P2a-XT1 Quadratic Relations

Author: cemccourseware

Topic: Quadratic Equations

This was created for the [CEMC Grade 9/10/11 courseware](#). Search the [interactive library](#) to find the associated lesson.

Question: Can you determine the equation of the **relation to match**?

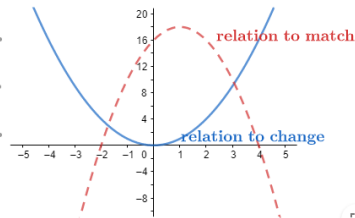
Instructions: Move the sliders to change the quadratic relation $y = a(x - r)(x - s)$. Try to match the shape of the red dashed curve.

$$y = x^2$$

$$a = 1$$

$$r = 0$$

$$s = 0$$



MT1-04-P2a-XT1 Pyramids and Prisms

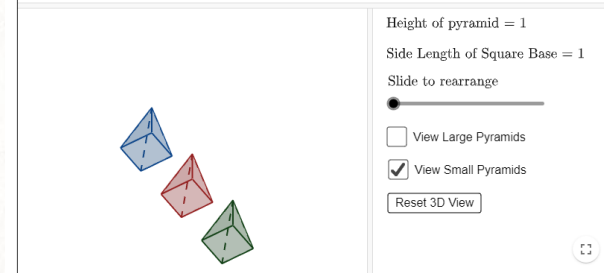
Author: cemccourseware

Topic: Prism, Pyramid, Solids or 3D Shapes

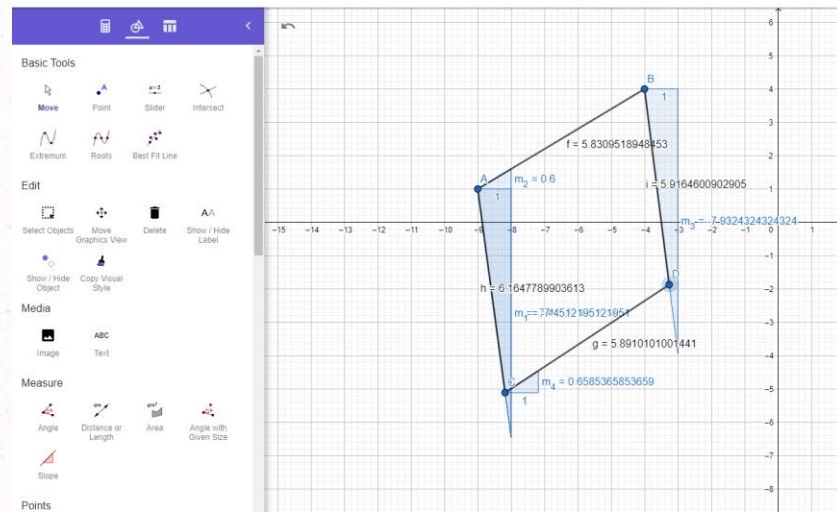
This was created for the [CEMC Grade 9/10/11 courseware](#). Search the [interactive library](#) to find the associated lesson.

Question: How are the dimensions of the pyramids related to the dimensions of the prisms? How are their volumes related?

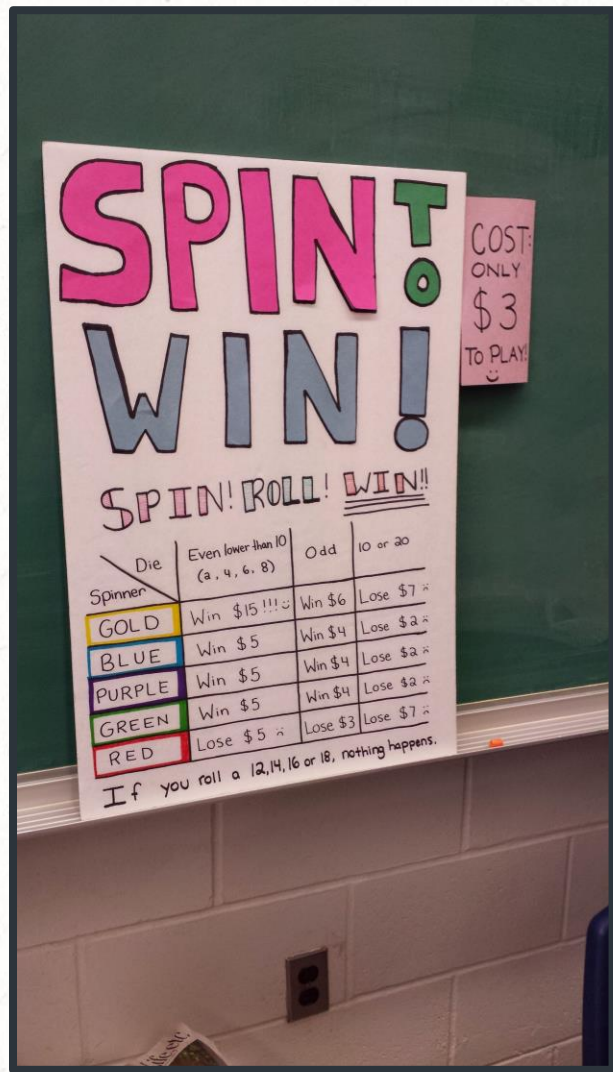
Instructions: Select the size of pyramids using the check boxes. Move the slider to rearrange the pyramids to form a prism. To rotate the 3D view, click in the 3D window.

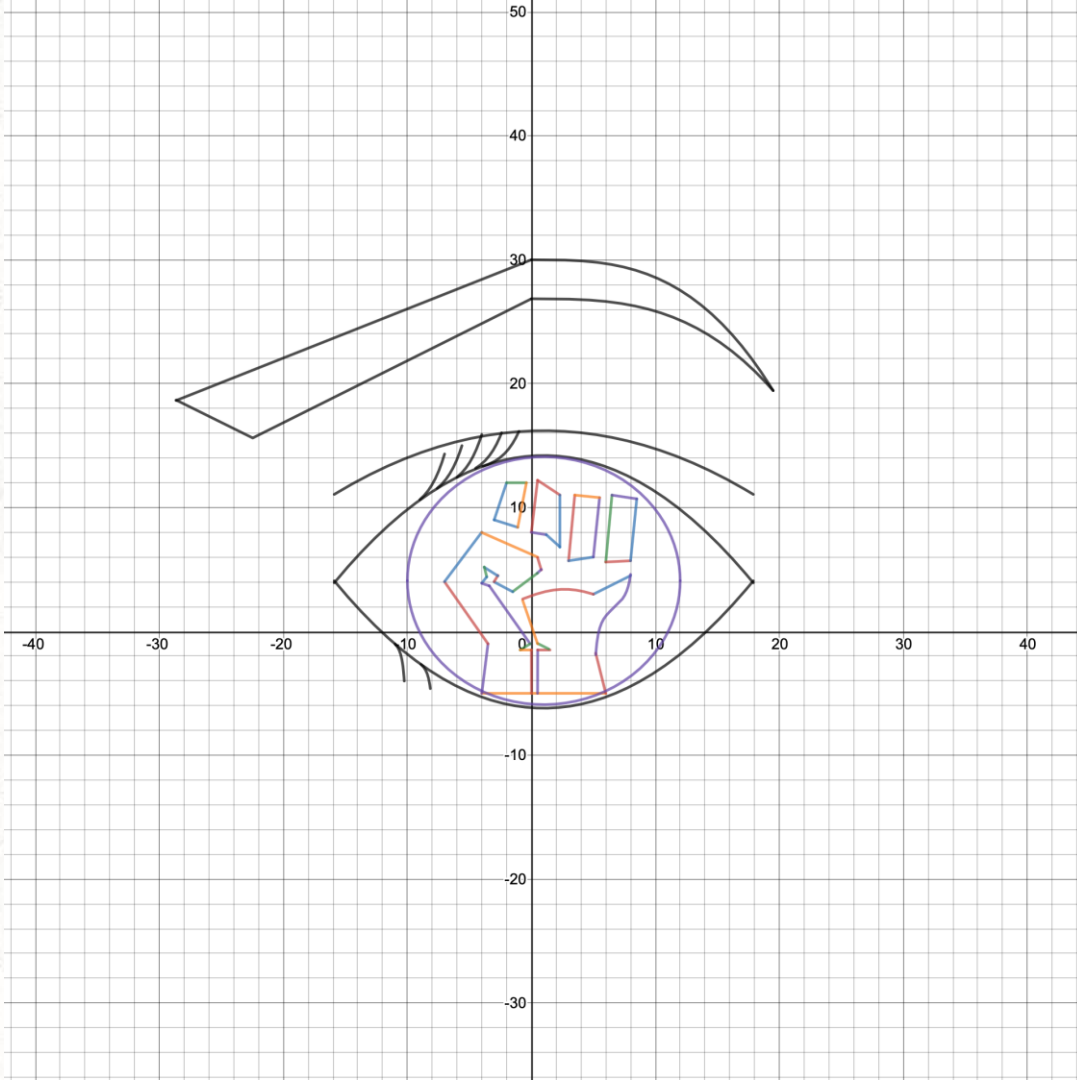


GeoGebra Calculator Suite



CREATIVITY

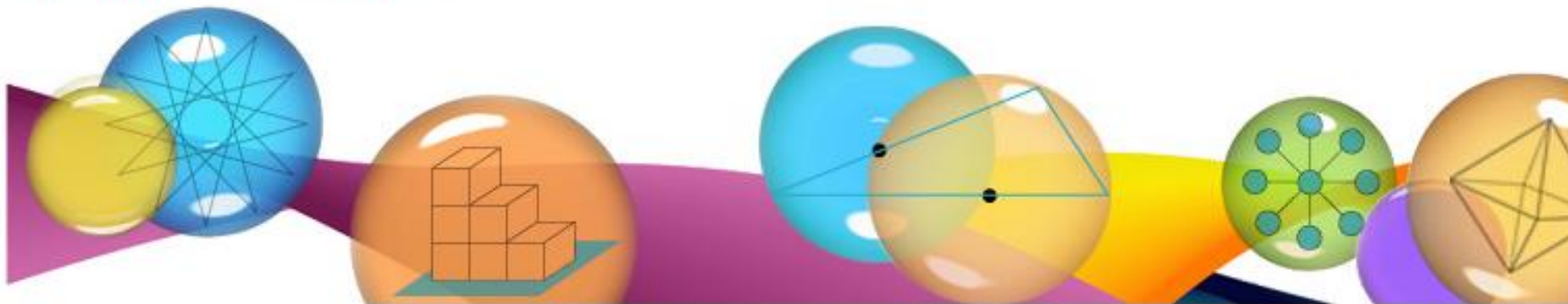




SOCIAL JUSTICE
AND
EQUITY

PREPARING FOR HIGH SCHOOL MATH

Problem of the Week



The Problem of the Week is designed to provide students with an ongoing opportunity to solve mathematical problems. Each week, problems from various areas of mathematics will be posted here and e-mailed to teachers for use with their students from grades 3 and up.

<https://cemc.uwaterloo.ca/resources/potw.php>

PREPARING FOR HIGH SCHOOL MATH

Grade Programming Courseware (CEMC
University of Waterloo)

- ▶ **Mathematics and Computing are interdisciplinary. Consider learning to code through free courses!**
- ▶ <https://open.cs.uwaterloo.ca/>



Lesson Goals

- Review the concept of a variable.
- Examine polynomials and classify an expression as monomial, binomial, or trinomial based on the number of terms.
- State the degree of a polynomial.

Try This

Which of the expressions shown below are polynomials? What is the degree of each polynomial?

a. $12x^4 - 10x^3 + 4x^2 - 5x + 1$

PREPARING FOR HIGHSCHOOL MATH

Grade 9/10/11 Courseware (CEMC University of Waterloo)

- ▶ The Grade 9/10/11 courseware was developed through the CEMC by experienced teachers in partnership with faculty members and multimedia developers from the University of Waterloo. The materials feature lessons, interactive activities, enrichment challenges, and unlimited opportunity for practice with feedback. The courseware is online, free to use, and does not require registration to access
- ▶ <https://courseware.cemc.uwaterloo.ca/41>


CS

Open Computer Science


Ab

CEMC Courseware > Home


Courses

**Python from scratch**


Python from scratch is a gentle introduction to programming, designed with the beginner in mind. No previous background is assumed. Each programming concept is first taught without reference to a specific programming language. Hands-on practice, using the programming language Python, helps to reinforce the concepts.

**Language independent lessons**


This "course" is a collection of videos teaching basic programming concepts in a language-independent manner (also used in Python from scratch). They can serve as supplementary materials for students of just about any programming language, or as a basis for review.

**Web basics**

Web basics introduces the main ideas behind the specification of a web page in HTML5 and CSS3, assuming no previous background. Explanations are interspersed with exercises and ideas for further practice.

**Web programming**

Web programming presents the use of basic programming concepts as applied to web pages, using the language JavaScript. The target audience for this course is those who have mastered the basics of programming (in any programming language) and the basics of HTML and CSS.



SEE YOU IN SEPTEMBER 😊

AT
VICTORIA
PARK
CI