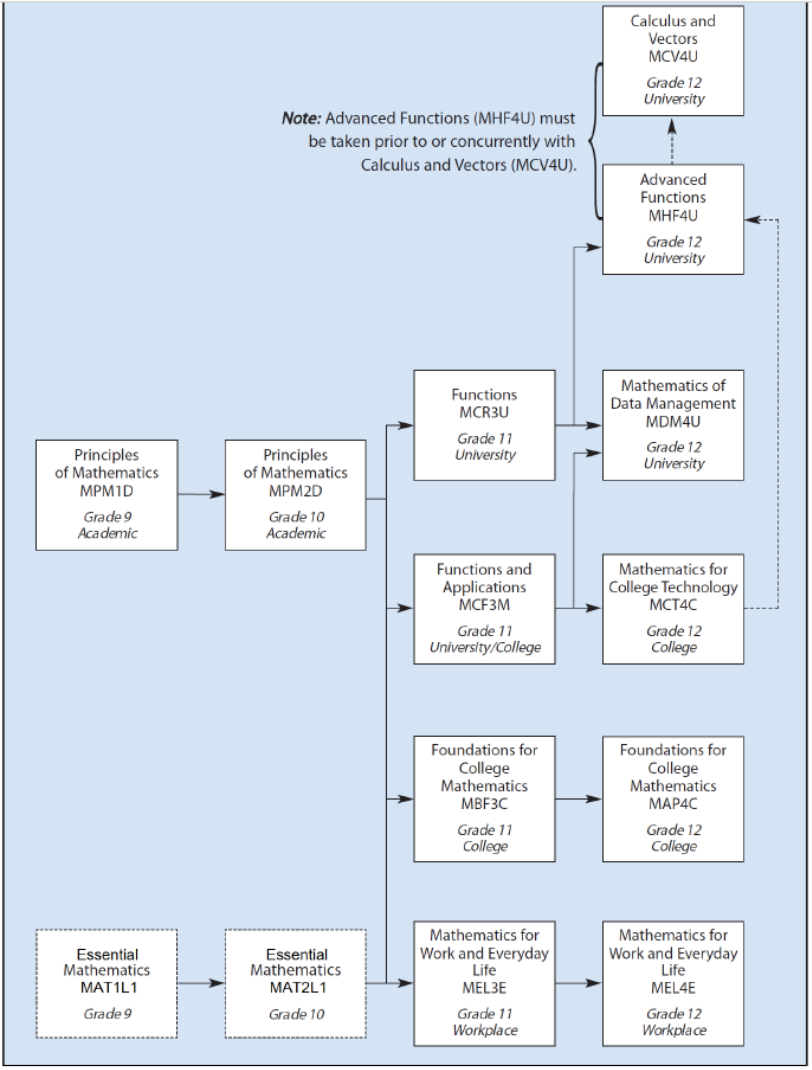
# Victoria Park Collegiate Institute

# 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.

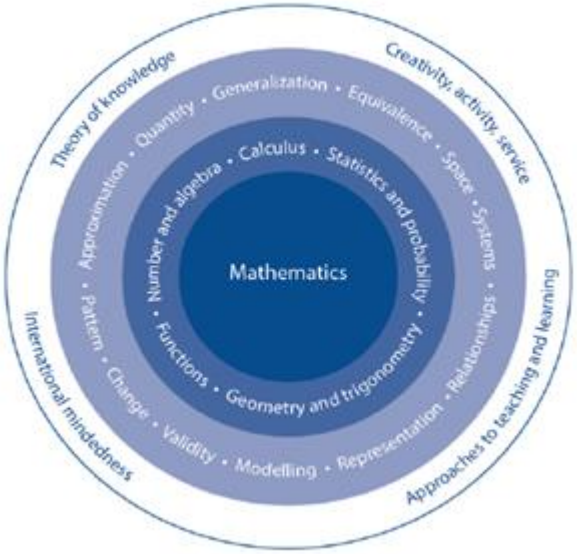
These two different facets of mathematics may seem separate, but they are often deeply connected.

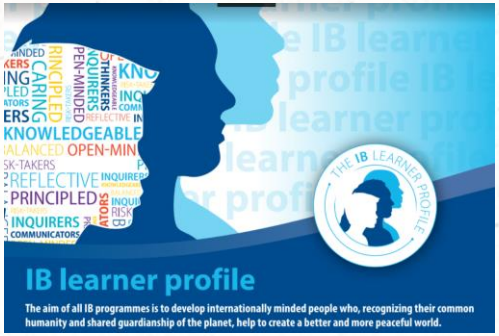


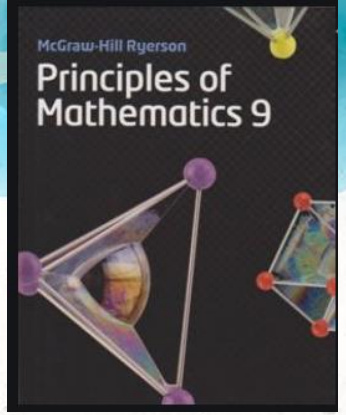

# Ontario Curriculum

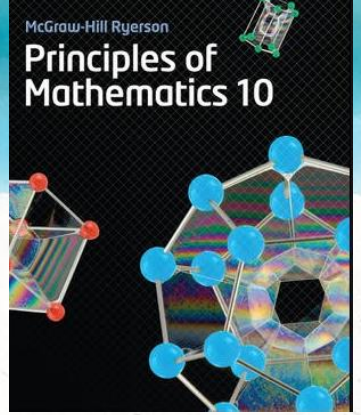
# International Baccalaureate

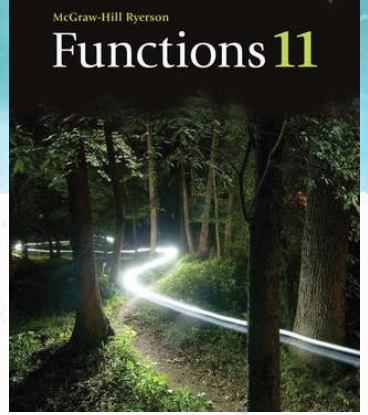
Figure 2
The mathematics model

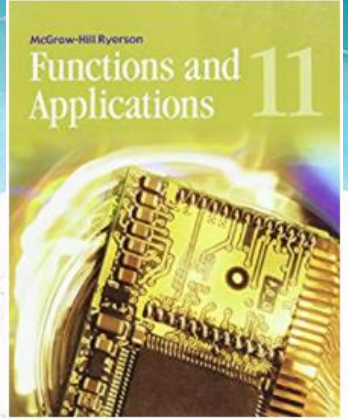


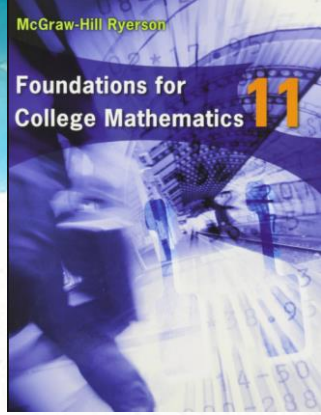



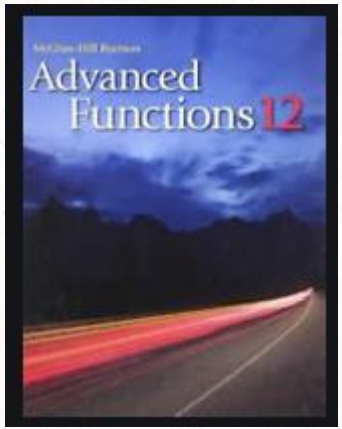

McGraw-Hill Ryerson
Principles of Mathematics 9

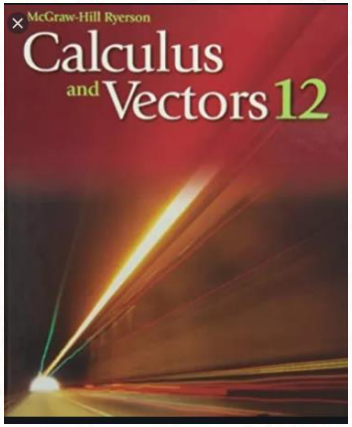

McGraw-Hill Ryerson
Principles of Mathematics 10

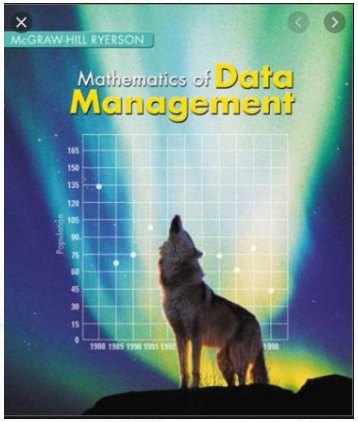

McGraw-Hill Ryerson
Functions 11

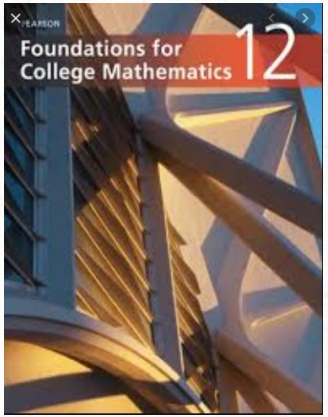

McGraw-Hill Ryerson
Functions and Applications 11


McGraw-Hill Ryerson
Foundations for College Mathematics 11

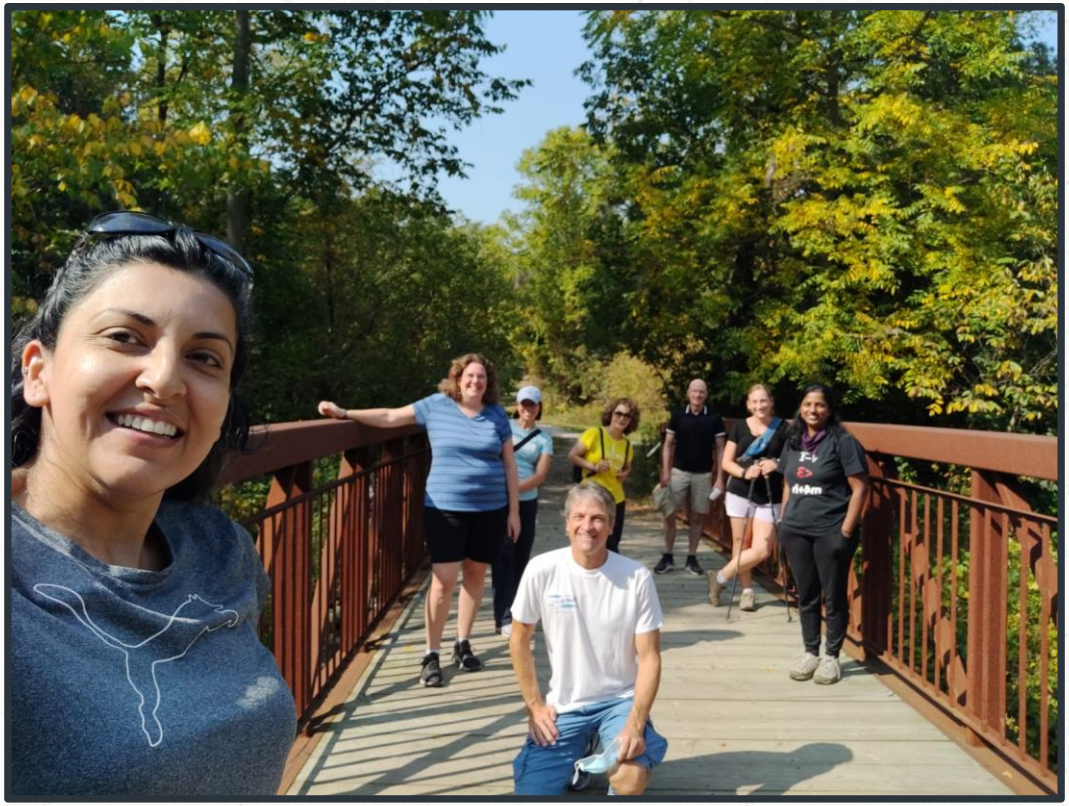

Advanced Functions 12


McGraw-Hill Ryerson
Calculus and Vectors 12


McGRAW-HILL RYERSON
Mathematics of Data Management


Foundations for College Mathematics 12

## 2. Teachers



# 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**

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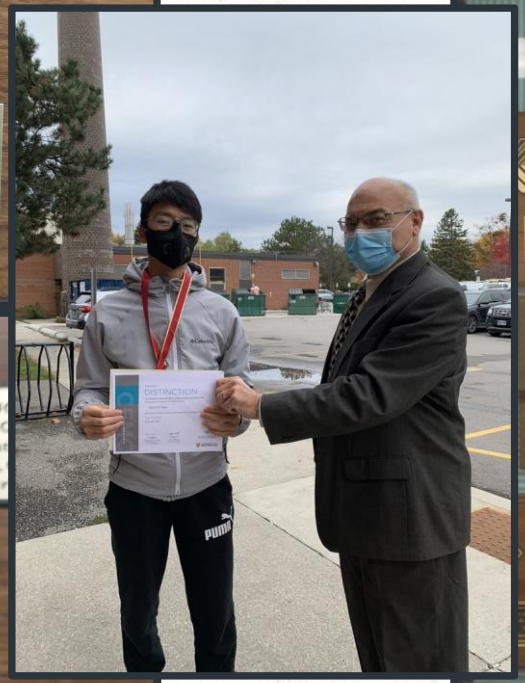
Waterloo, Ontario, Canada
www.cemc.uwaterloo.ca
CENTRE for EDUCATION in MATHEMATICS and COMPUTING
PASCAL CONTEST
2019 ZONE CHAMPION
VICTORIA PARK COLLEGIATE
YIRAN WANG HAOZHOU JIANG THOMAS WANG

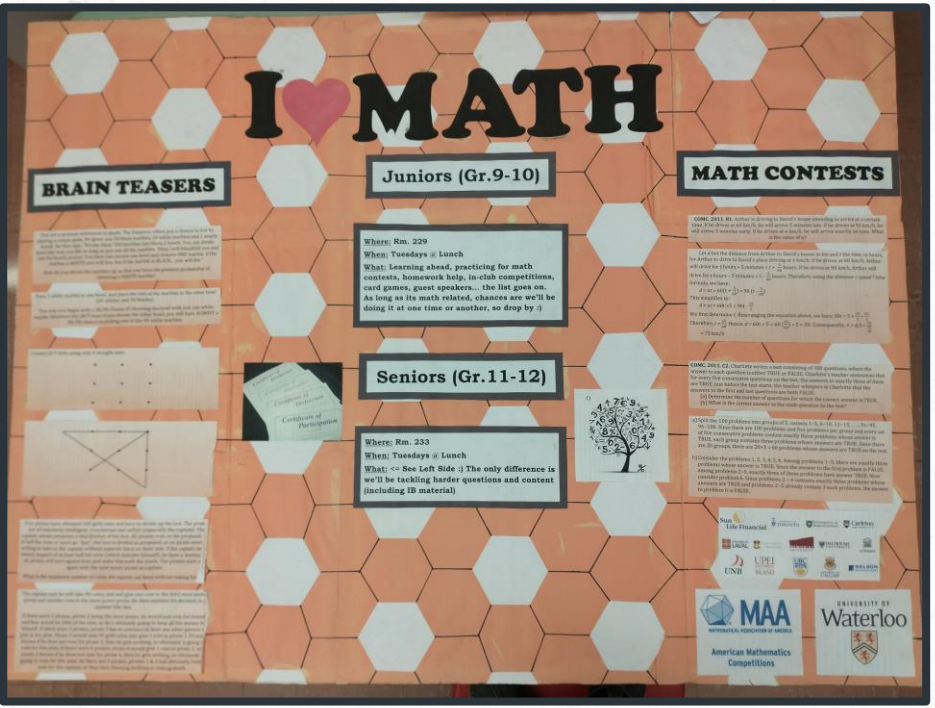
CAYLEY CONTEST
2019 ZONE CHAMPION
VICTORIA PARK COLLEGIATE



MATH

# 4. MATH CLUB

MATH MENTORING AND COACHING




## 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)

4. Creativity and Application

MATHSPACE

desmos

EXPLORE MATH

Gizmos

GeoGebra

UNIVERSITY OF WATERLOO

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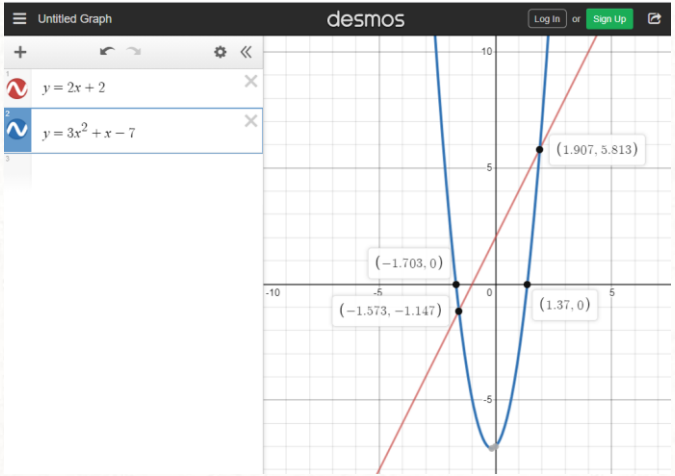
Knowledgehook

# Application and Technology



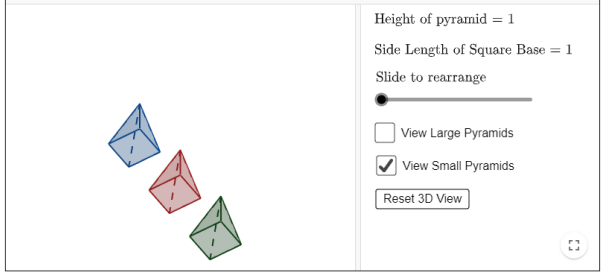

## MT1-04-P2a-XT1 Pyramids and Prisms

**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.



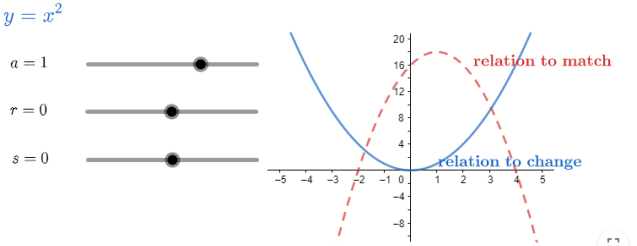

## QR2-02-P2a-XT1 Quadratic Relations

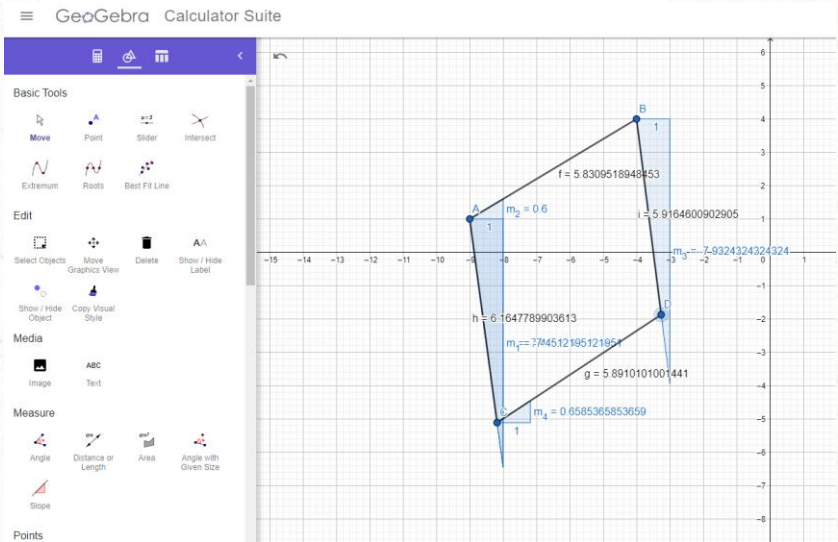
**Author:** cemccourseware

**Topic:** Quadratic Equations

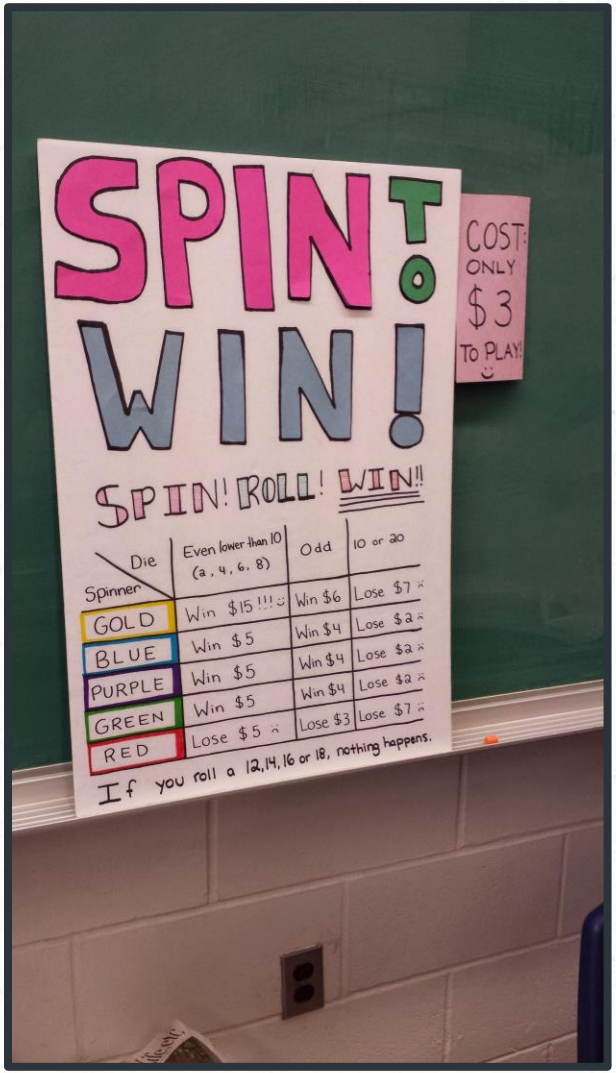
This was created for the CEMC Grade 9/10/11 courseware. Search the interactive library to find the associated lesson.

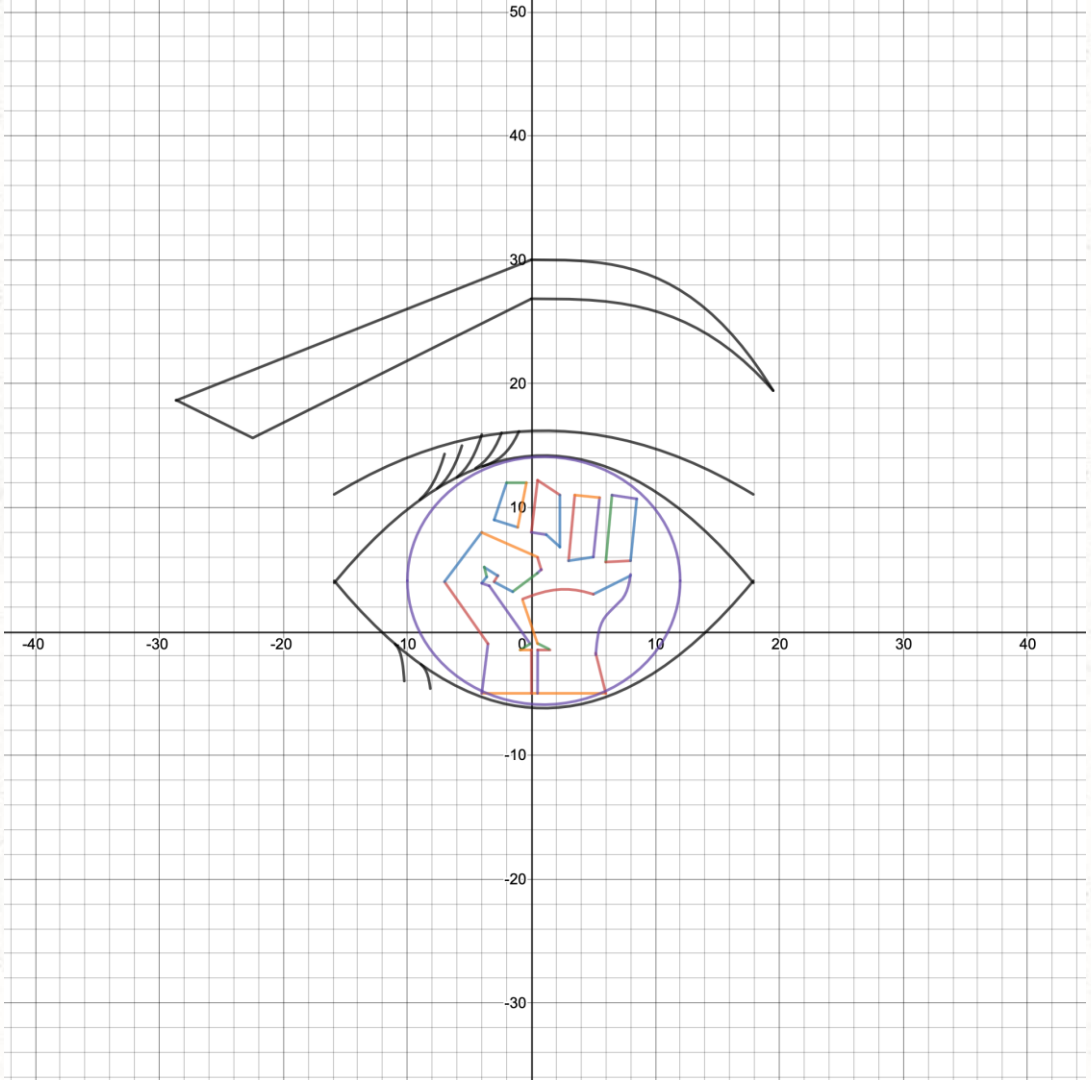
**Question:** Can you determine the equation of the relation to match?
**Instructions:** Move the sliders to change the quadratic relation $y = a(x - r)(x - s)$.
Try to match the shape of the red dashed curve.



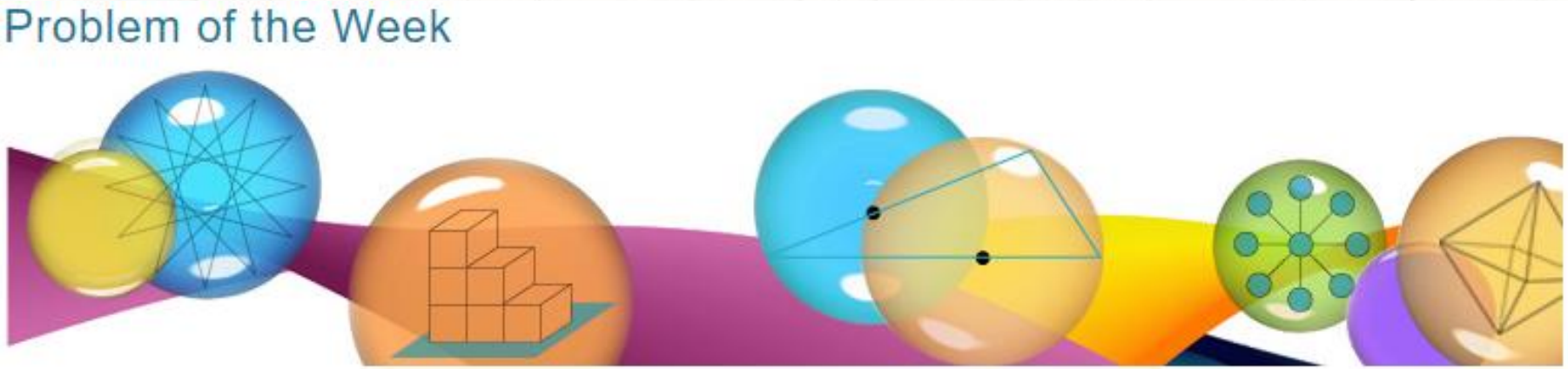
# Creativity


SPIN! TO WIN!
COST: ONLY $3 TO PLAY!
SPIN! ROLL! WIN!!
Die
Spinner
Even lower than 10 (2, 4, 6, 8)
Odd
10 or 20
GOLD
Win $15 !!! ☺
Win $6
Lose $7 ☹
BLUE
Win $5
Win $4
Lose $2 ☹
PURPLE
Win $5
Win $4
Lose $2 ☹
GREEN
Win $5
Lose $3
Lose $7 ☹
RED
Lose $5 ☹
If you roll a 12, 14, 16 or 18, nothing happens.




# SOCIAL JUSTICE AND EQUITY

# Preparing for High school Math



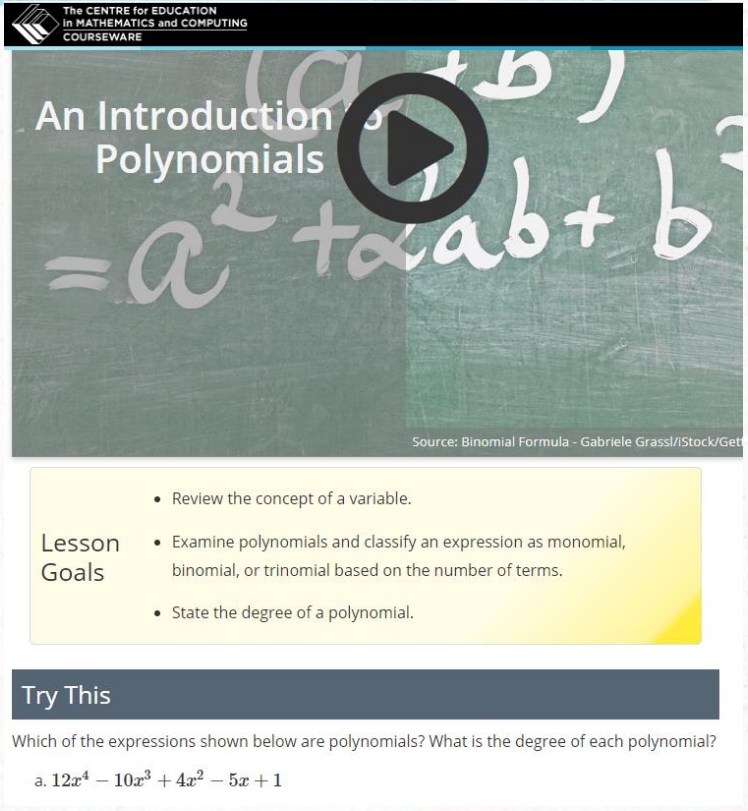

**The Problem of the Week** is designed to provide students with an ongoing opportunity to solve mathematical problems. Each week, problems from various areas of mathematics will be posted here and e-mailed to teachers for use with their students from grades 3 and up.

**https://cemc.uwaterloo.ca/resources/potw.php**

# Preparing for High school Math

Grade Programming Courseware (CEMC University of Waterloo)

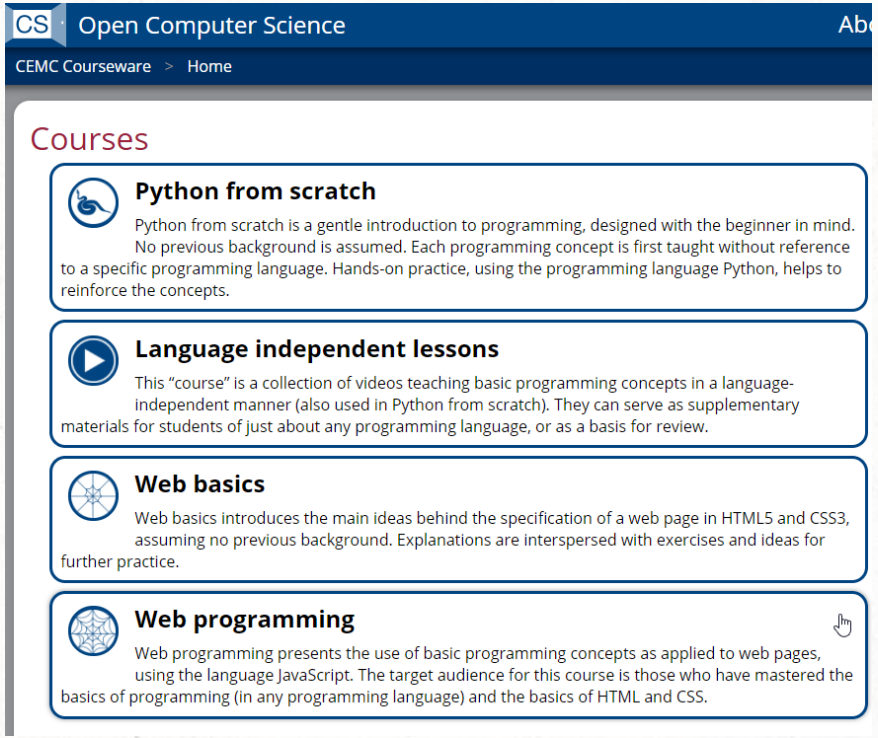
- **Mathematics and Computing are interdisciplinary. Consider learning to code through free courses!**
- **https://open.cs.uwaterloo.ca/**



# 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**



# See you in September☺