

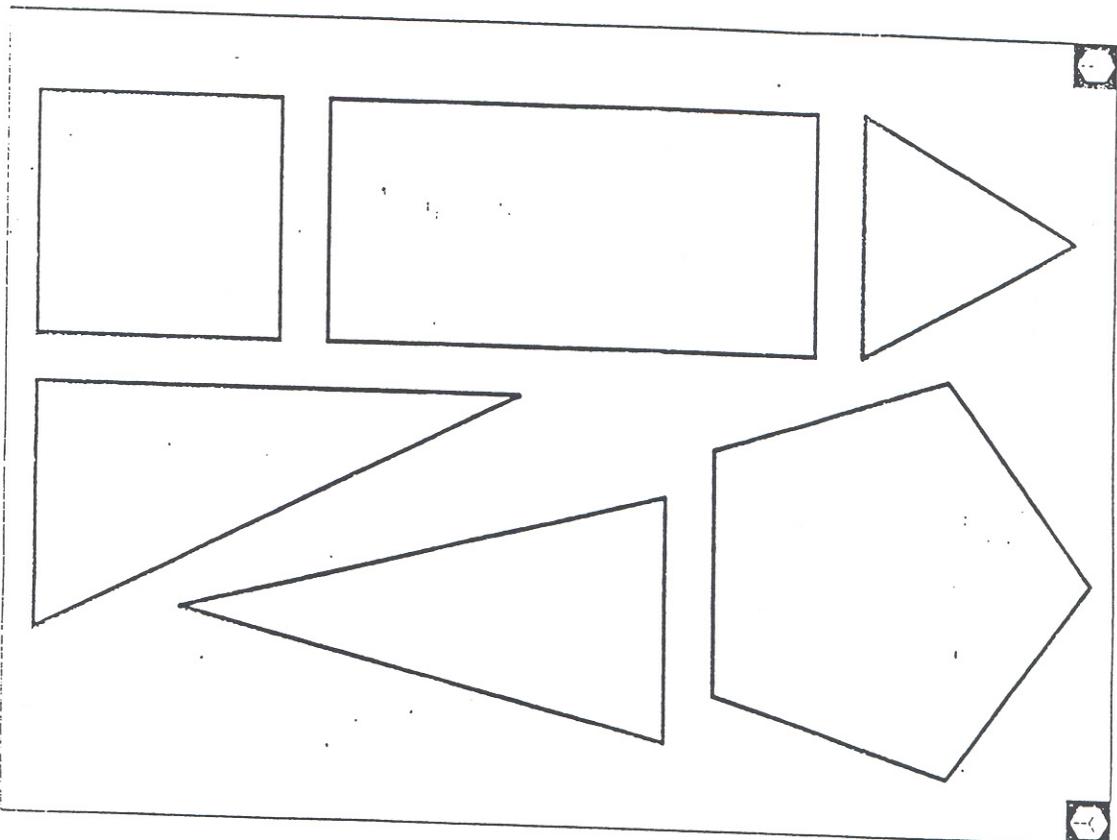
# POLYHEDRAVILLE PROJECT

This project is based on the  
Mathematics Replacement  
Curriculum from Creative  
Publications:

*Polyhedraville*

in class time: 3 -4 days

out of class time: 7 days



## Building Project

Each group must:

1. Build the building they draw in class using at least one of every type of polygon on the sheet.
2. The building must stay within the budget of \$12,000 and \$20,000
3. The building must be able to stand by itself
4. The building must have a floor, a roof and be enclosed.
5. The group will build 2 identical nets of the same building. Write the area of each piece on each polygon used so you can find the total area. Also write what part of the building it is on each piece. ( roof, floor, etc. )
6. Construction costs:
  - a) wall or roof \$26.25
  - b) floor \$ 52.50
  - c) advice from consultant \$200 per question to be billed as -2 points from overall grade.
  - d) construction delays \$ 300 a happening to be billed as -3 points from overall grade

*Created by  
Mary Selcer*

NAME \_\_\_\_\_ DATE \_\_\_\_\_ PERIOD \_\_\_\_\_

### BUILDING GRADE SHEET

PORTFOLIO: Design a cover to contain the following:  
 GRADE SHEET  
 NET  
 SPEC SHEET

BUILDING: 10 POINTS EACH

Portfolio in correct order

Creativity & neatness of Portfolio

Net is correct, matches building & correctly labeled

Within the budget

Correct polygons were used

Spec Sheet Contains correct information

Building stands alone & is sturdy

Detailing of Building: Name, windows, etc.

Your name and period clearly marked on building

Creativity and neatness of building

DEDUCTIONS

\*\*\*\*\*

TOTAL

# BUILDING SPECIFICATIONS

SURFACE AREA OF THE BUILDING						
	EQUILATERAL TRIANGLE	RIGHT TRIANGLE	ISOSCELES TRIANGLE	SQUARE	RECTANGLE	PENTAGON
AREA OF EACH POLYGON						
NUMBER OF EACH USED						
TOTAL AREA						

WALLS AND ROOF OF THE BUILDING						
	EQUILATERAL TRIANGLE	RIGHT TRIANGLE	ISOSCELES TRIANGLE	SQUARE	RECTANGLE	PENTAGON
COST OF EACH POLYGON						
NUMBER OF EACH USED						
TOTAL COST						

FLOOR						
	EQUILATERAL TRIANGLE	RIGHT TRIANGLE	ISOSCELES TRIANGLE	SQUARE	RECTANGLE	PENTAGON
COST OF EACH POLYGON						
NUMBER OF EACH USED						
TOTAL COST						

## BUILDING SUMMARY

TOTAL SURFACE AREA OF BUILDING:

TOTAL COST OF WALLS & ROOF:

TOTAL COST OF FLOOR:

TOTAL COST OF BUILDING:

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6<sup>th</sup> Six Weeks, Unit 12, p. 28

NAME \_\_\_\_\_ DATE \_\_\_\_\_ PERIOD \_\_\_\_\_

**IT FIGURES**

Use polygons to construct the following figures and find the following.

1. CUBE: BASES: LATERAL FACES:

NET	THREE DIMENSIONAL SKETCH
FIND:	FIND:
AREA OF 1 BASE:	TOTAL AREA:
LATERAL AREA	VOLUME

2. RECTANGULAR PRISM: BASES: LATERAL FACES:

NET	THREE DIMENSIONAL SKETCH
FIND:	FIND:
AREA OF 1 BASE:	TOTAL AREA:
LATERAL AREA	VOLUME

3. TRIANGULAR PRISM: BASES: LATERAL FACES:

NET	THREE DIMENSIONAL SKETCH
FIND:	FIND:
AREA OF 1 BASE:	TOTAL AREA:
LATERAL AREA	VOLUME

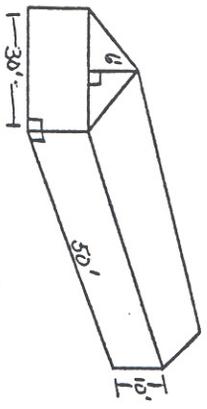
4. PENTAGONAL PRISM: BASES: LATERAL FACES:

NET	THREE DIMENSIONAL SKETCH
FIND:	FIND:
AREA OF 1 BASE:	TOTAL AREA:
LATERAL AREA	VOLUME

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5. HEXAGONAL PRISM: BASES:		LATERAL FACES:	
NET		THREE DIMENSIONAL SKETCH	
FIND:		FIND:	
AREA OF 1 BASE:		TOTAL AREA:	
LATERAL AREA		VOLUME	

FIND THE TOTAL AREA AND VOLUME OF THE FOLLOWING



- 6. TOTAL AREA=\_\_\_\_\_
- 7. VOLUME:\_\_\_\_\_

Let me hear how it works in your class !

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