

BE - Geometry 1 | TUESDAY 3-8-11

- ① Name the Platonic Solids. For each, name the regular polygon that forms each face and state the number of faces.
- ② Define: ① prism ③ polyhedron
 ④ pyramid

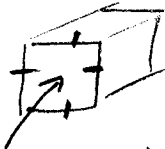
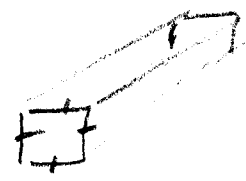
• Homework Review

- ①

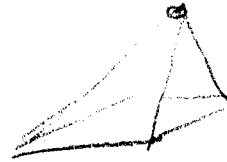
tetrahedron	{	equilateral triangle	→ 4 faces
octahedron			→ 8 faces
icosahedron			→ 20 faces
cube	{	square	→ 6 faces
dodecahedron		regular pentagon	→ 12 faces
- ② ① prism $\Rightarrow$ polyhedron, one pair of // and $\cong$ bases, other faces are polygons. Named for bases.
- ③ pyramid $\Rightarrow$ polyhedron with all faces except base intersecting at one vertex. Named for base.
- ④ polyhedron $\Rightarrow$ solid figure bounded by polygons.

Homework Review - Pg. 639 #1-8

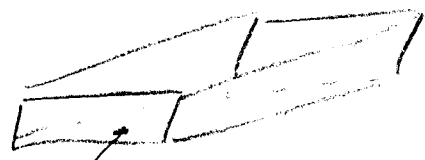
- ① The PLATONIC SOLIDS ARE MADE FROM REGULAR POLYGONS. ALL FACES ARE CONGRUENT.

- ② SQUARE PRISM $\Rightarrow$  
- 2 BASES ARE SQUARES
 - SIDES ARE PARALLELOGRAMS

SQUARE PYRAMID $\Rightarrow$



- 1 base is square
- SIDES ARE Δ that meet AT A POINT.

- ③  bases are rectangles.

	<u>BASES</u>	<u>FACES</u>	<u>EDGES</u>	<u>VERTICES</u>
⑤	HEX ABCDEF HEXAGONAL PYRAMID	6+B	12	7
⑥	$\square$ KJIH, MNOL SQUARE PRISM	4+2B	12	8
⑦	$\odot P, \odot Q$ CYLINDER	NONE	NONE	NONE

⑧ ROUND $\Rightarrow$ CUT // to bases RECTANGULAR $\Rightarrow$ CUT $\perp$ to bases

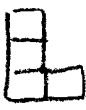
4



top



Left



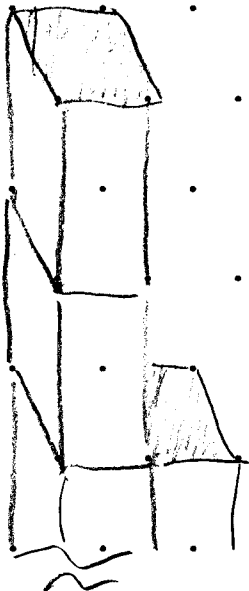
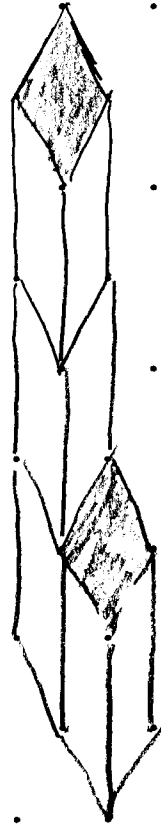
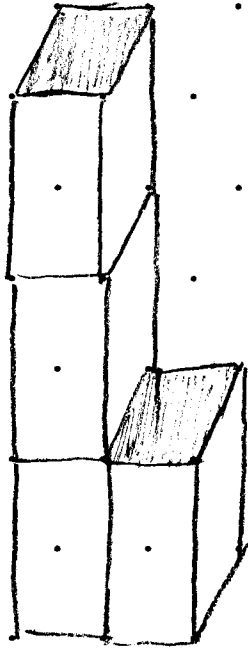
Front



Right



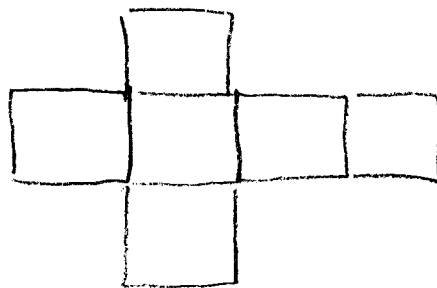
Back



Ch. 12-2 Nets And Surface Area

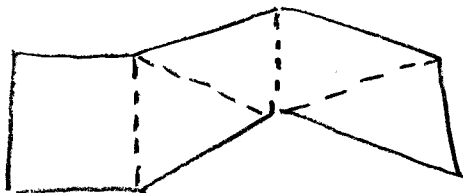
NET A flat (2d) model that
is a pattern to fold into
a solid (3d).

Ⓔ What is this net for?



A cube.

Generally, dotted lines show where to fold the net. Describe this solid.

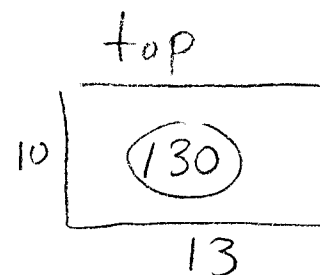
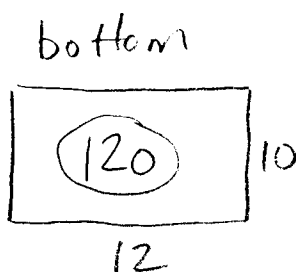
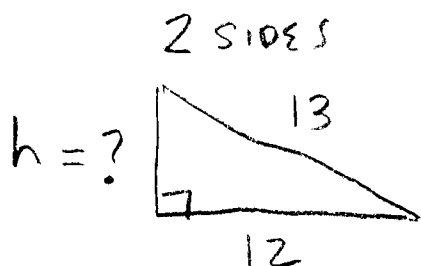
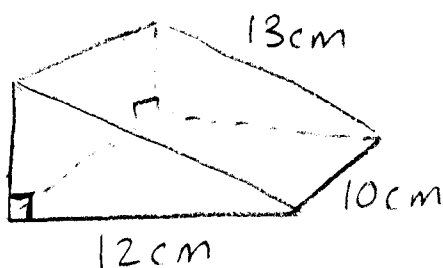


Square pyramid.

See interactive.nets@learner.org

Nets can be useful to calculate surface area. An "exploded" view may be easier to draw.

EX3 Find the surface area of the
pg 645 triangular prism



$$13^2 - 12^2 = h^2$$

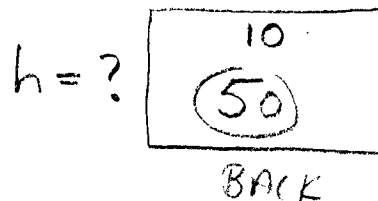
$$169 - 144 = h^2$$

$$25 = h^2$$

$$\therefore h = 5$$

$$A_{\Delta} = \frac{1}{2} \cdot 12 \cdot 5 = 30$$

2 sides $\Rightarrow$ (60)



Total SA $\Rightarrow$

60
120
130
50

360 cm²

Homework: Pg 645 # 5-7 (NETS OPTIONAL)
Pg 648 # 50-53