

Warm-Up

Date: Nov. 19



1) $20 \div 4$

5

2) 7×30

210

3) 14.3×10

143

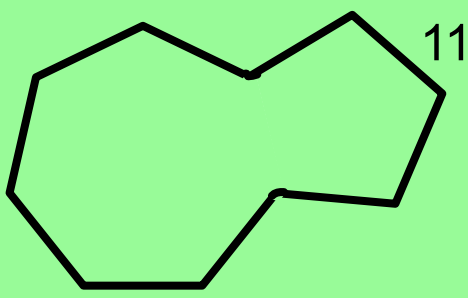
4) 3×12

36

5) 45×2

90

6) Find the perimeter of the polygon with all equal sides.
Write arule to find the perimeter (Show work)

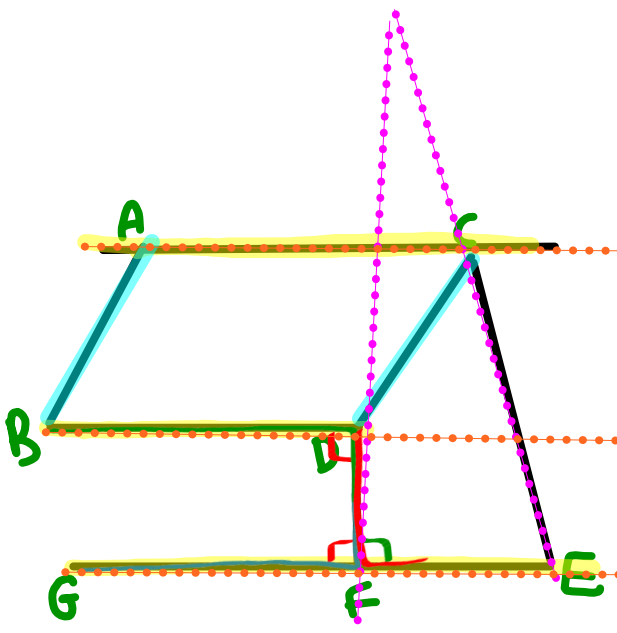


10 equal side

$P = 10$ (lenght side) 1pt

$= 10\ (11\text{cm})$ 0.5pt

$= 110\text{ cm}$ 0.5pt



Parallel

AC // BD

AC // GF

AC // FE

AC // GF

BD // GF

BD // GE

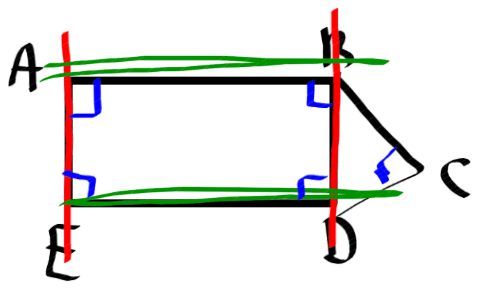
AB // CD

Perpendicular

BD ⊥ DF

GF ⊥ FD

DF ⊥ FE



5. Aldo wants to install a skylight in the roof of his house. The base of the skylight is a regular hexagon with side length 40 cm. What is the perimeter of the base of the skylight? Give your answer in metres.
Which strategy did you use to find out?



regular hexagon has 6 equal sides

P of regular hexagons = 6 (side)

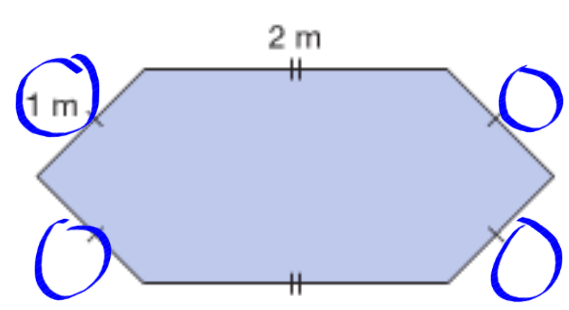
= 6 (40 cm)

= 240 cm

since 100cm =1 m

= 2.4 m

6. Winnie is building a hexagonal storage box. Here is a drawing of the top of the box.



a) Write a rule to find the perimeter of the top of the box.

b) Write the rule as a formula.

c) What is the perimeter of the top of the box?

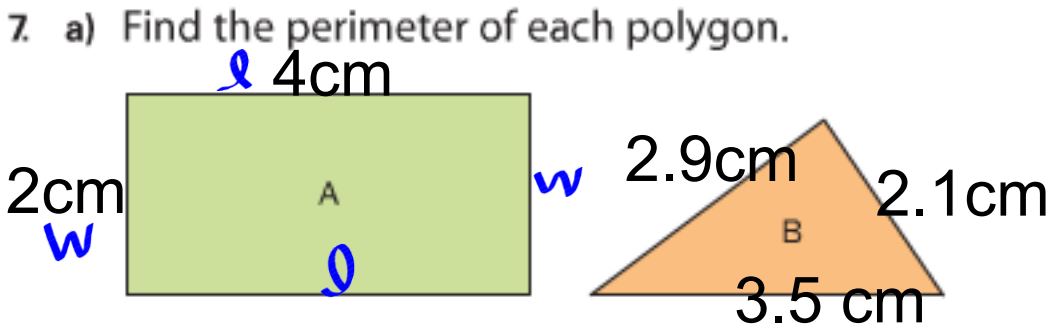
Per = 4(slant) + 2(top)

a) Per = 4(1m) + 2 (2m)

= 4 m + 4 m

= 8 m

7. a) Find the perimeter of each polygon.



b) Suppose the side lengths of each polygon are doubled. What would happen to each perimeter? Explain.

7a)Per Rec= 2(l + w) or 2l + 2w

= 2(4cm + 2cm)

= 2(6 cm)

= 12 cm

Per tri = side + side + side

= 2.9 cm + 2.1 cm + 3.5 cm

= 8.5 cm

7b) If the side lengths double the perimeter would double

Doubled

Per Rec= 2(l + w)

= 2(8cm + 4cm)

= 2(12 cm)

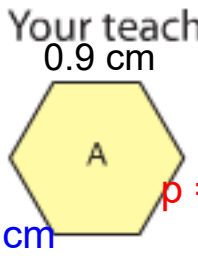
= 24 cm

Per tri = side + side + side

= 5.8 cm + 4.2 cm + 7 cm

= 17 cm

8. Your teacher will give you a large copy of these regular polygons.

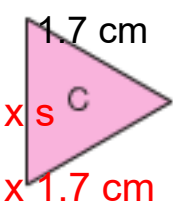


0.9 cm

p = 6 x s

= 6 x 0.9 cm

= 5.4 cm

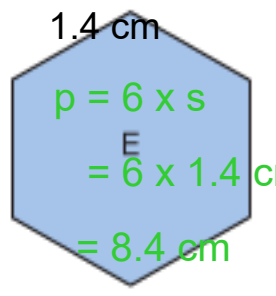


1.7 cm

p = 3 x s

= 3 x 1.7 cm

= 5.1 cm

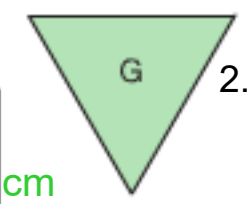


1.4 cm

p = 6 x s

= 6 x 1.4 cm

= 8.4 cm

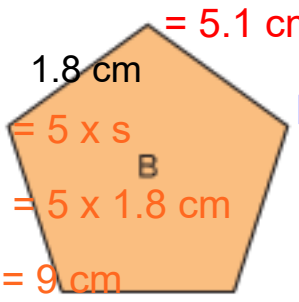


2.1 cm

p = 3 x s

= 3 x 2.1 cm

= 6.3 cm

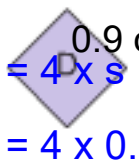


1.8 cm

p = 5 x s

= 5 x 1.8 cm

= 9 cm

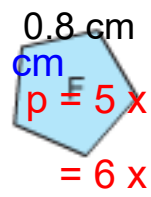


0.9 cm

p = 4 x s

= 4 x 0.9 cm

= 3.6 cm

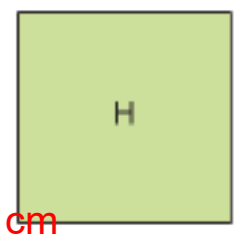


0.8 cm

p = 5 x s

= 6 x 0.8 cm

= 4.8 cm



2.1 cm

p = 4 x s

= 4 x 2.1 cm

= 8.4 cm

a) Find and record the perimeter of each polygon.

b) How is the perimeter of a regular polygon related to the number of its sides?
Write a formula to find the perimeter of a regular polygon.

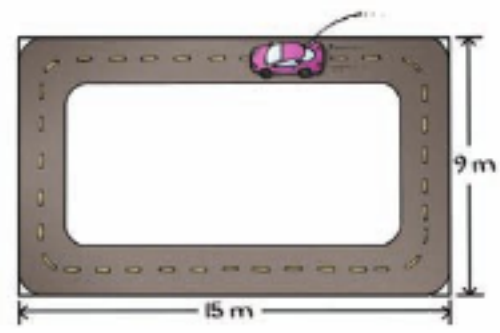
The perimeter is number of sides multiplied by the side length

P of regular polygon = # sides x side length

9. Saki has a remote control car. She enters her car in a race. The track is close to rectangular.

a) Use a formula to find the perimeter of the track.

b) Suppose the car completes 8 laps. How far did the car travel?



9)Per Rec= 2(l + w)

= 2(15 m + 9 cm)

= 2(24 m)

= 48 m

b) 1 lap is 48 m so

8 laps = 48 m x 8

= 384 m

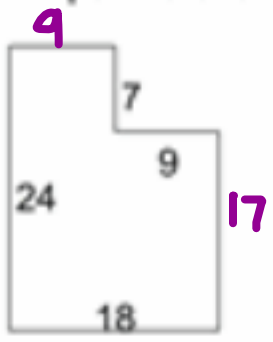
The car travel 384 m in 8 laps

Worksheet

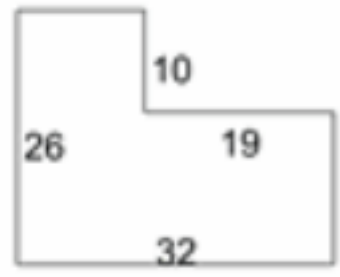
Area and perimeter of irregular shapes

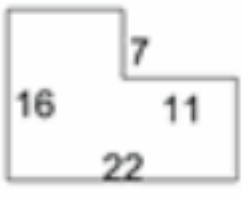
Grade 6 Geometry Worksheet

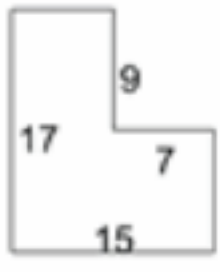
Find the perimeter and area.

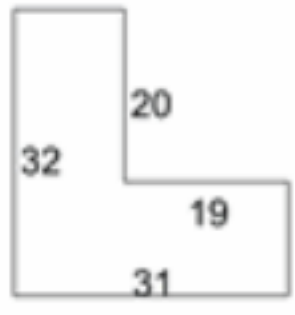
1. 

3. 

5. 

2. 

4. 

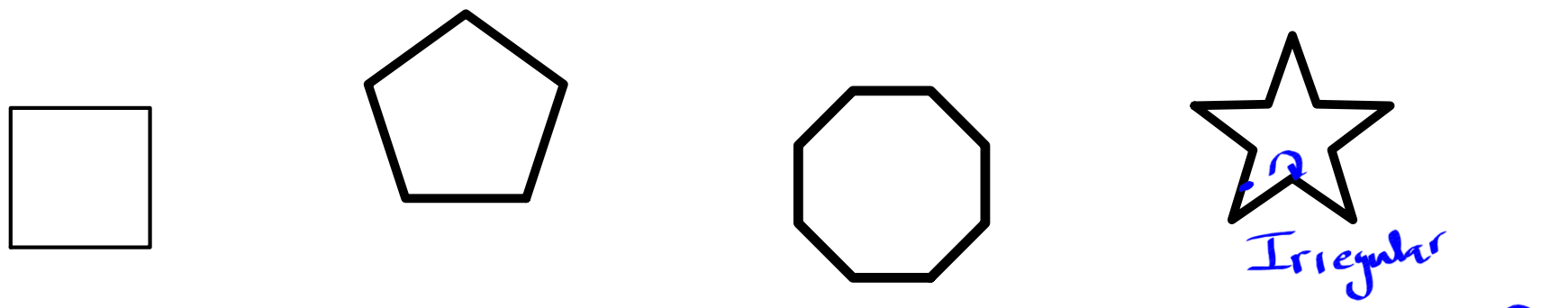
6. 

Prisms


NAME EACH OF THESE PRISMS
PRISMS GET THEIR NAMES FROM THE SHAPES THEY ARE BASED ON
PRISMS HAVE TWO FACES THAT ARE THE SAME SHAPE
& ALL THE OTHER FACES ARE RECTANGLES
© www.adrianbruce.com

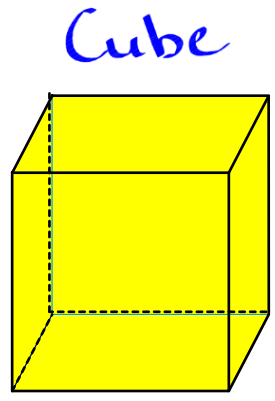
Draw and Construct Nets for 3D Objects.

Polygon - a closed shape that consists of line segments

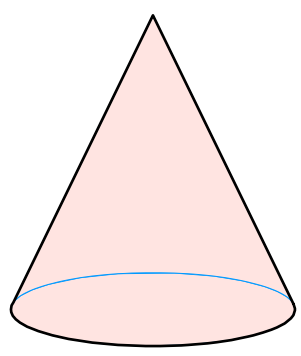


A regular polygon has all sides equal and all angles equal.

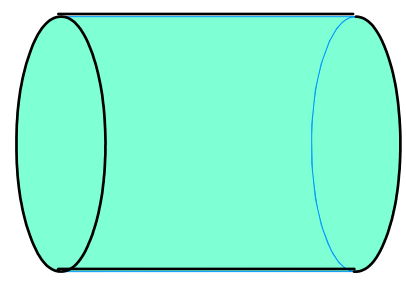
Polyhedron - an object with faces that are polygons



Face?
Square

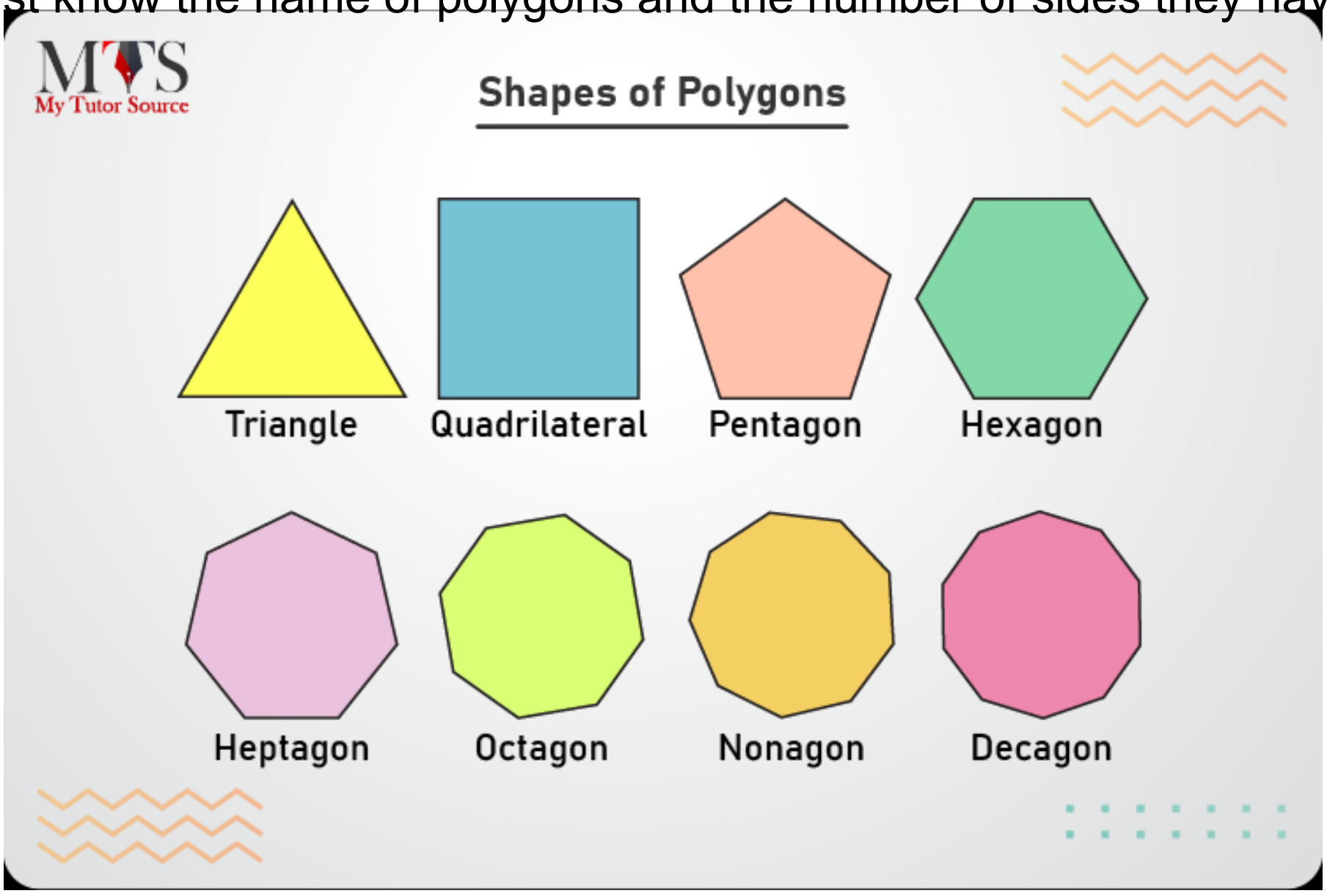


Face?



Face? circle

Must know the name of polygons and the number of sides they have



Study

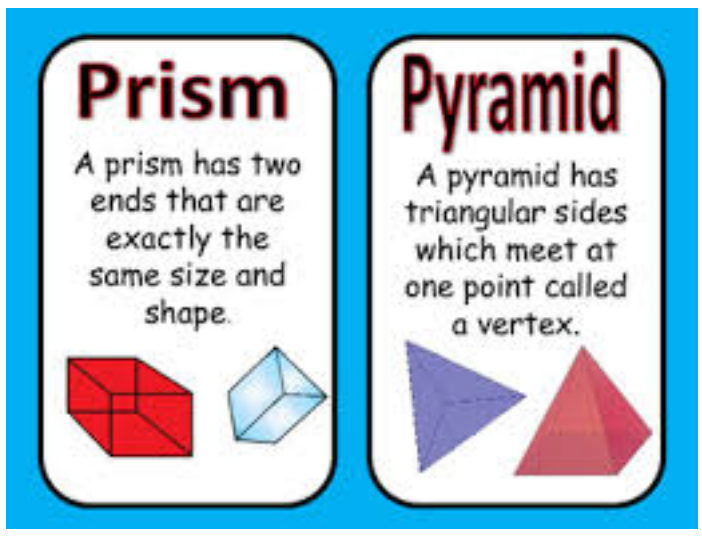
Pyramids - have 1 base as a polygon

- The sides are triangles which meet at the top (the apex)

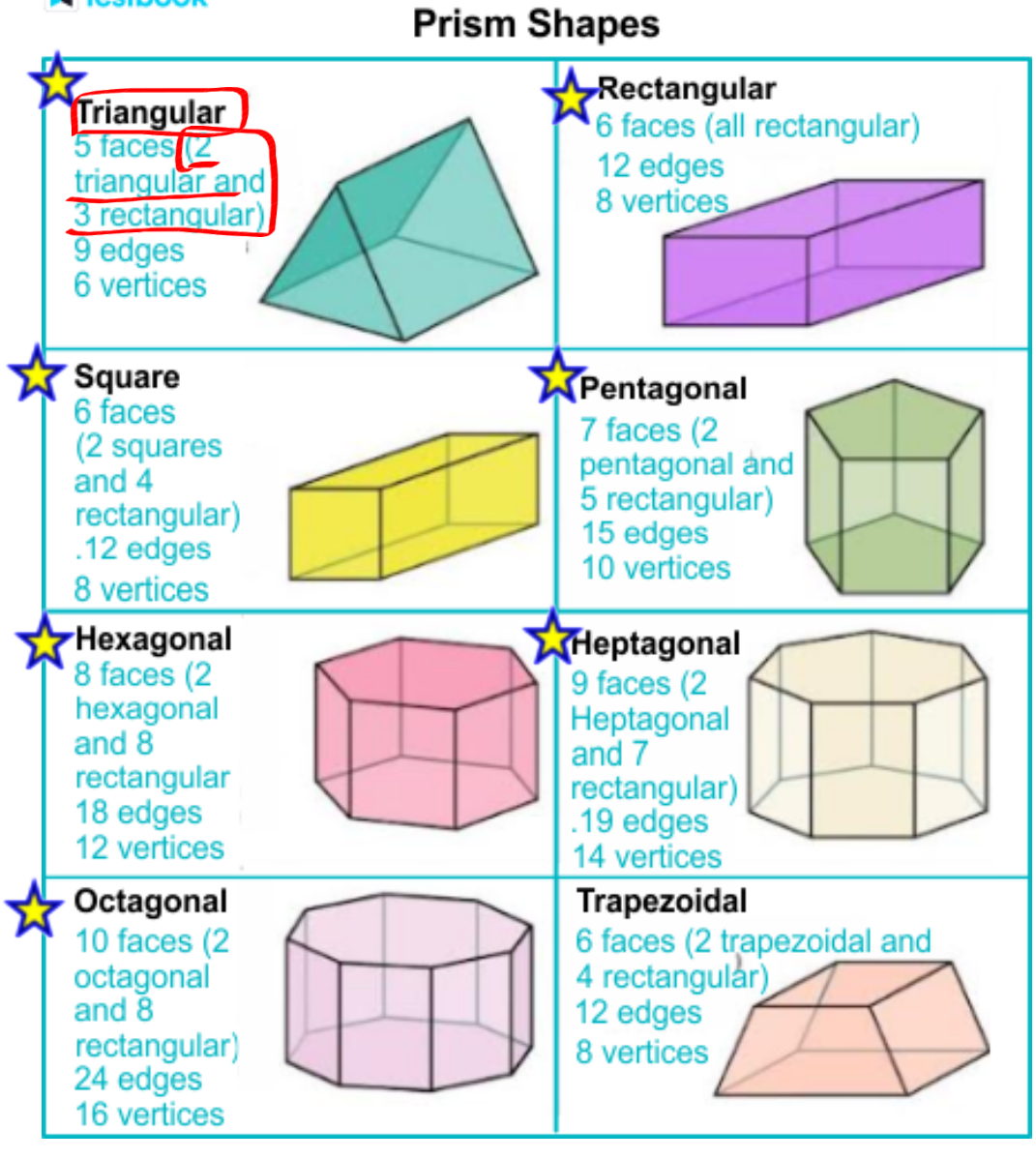
Study

Prisms- Has 2 identical bases, in which it is named after

- The sides are rectangles (More rectangles than base shape)



testbook



Just need to know the number of faces and types of faces for each.

Hint: Pentagonal Prism means that the base shape is 2 pentagons with 5 rectangle. (Since pent means 5)

Sam has the net for a heptagonal Prism
→ he has 2 heptagons and 5 rectangle, is this correct?

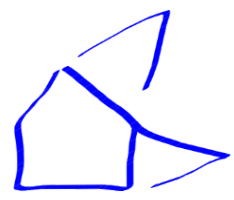
heptagonal
↳ sides
polygon

Prism
↳ Rectangle

2 heptagon
7 rectangle

Sam is wrong he needs 2 more rectangle.

Pentagonal Pyramid



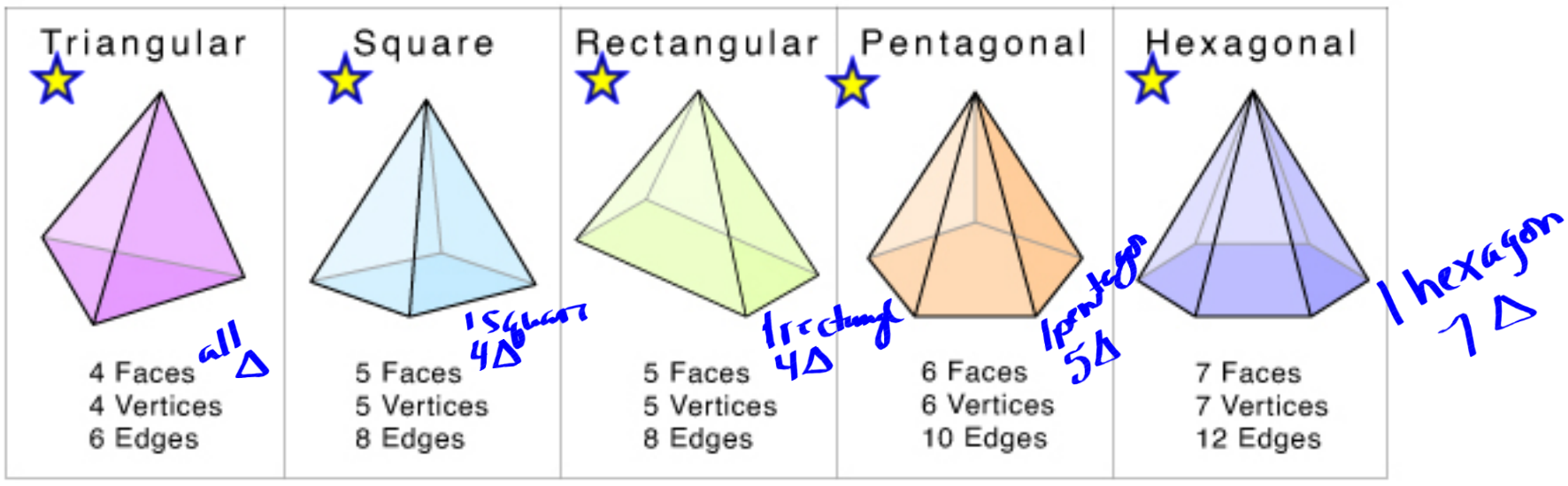
Have

pentagon

2 △

Need 3 more △

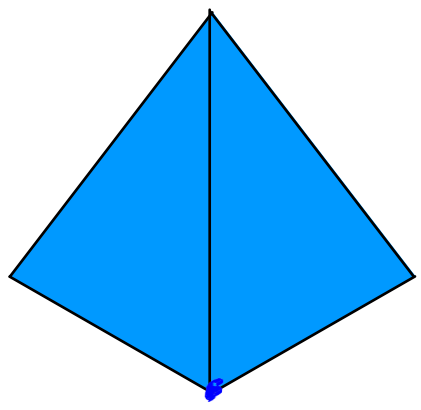
Types of Pyramids



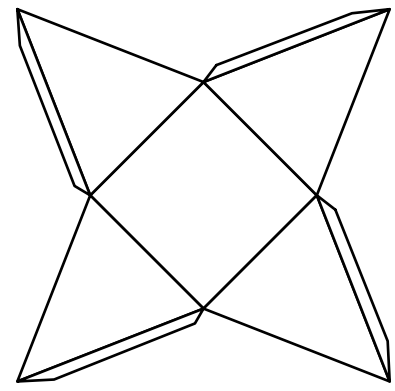
Just need to know the number of faces and types of faces for each.

Hint: Square Prism means that the base shape is a square with 4 triangles. (Since squares have 4 sides & each side needs a triangle off of it)

Net - is a 2D representation of a 3D object that can be folded to recreate the shape.



pyramid

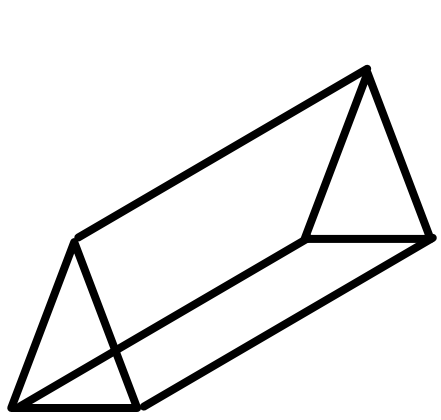


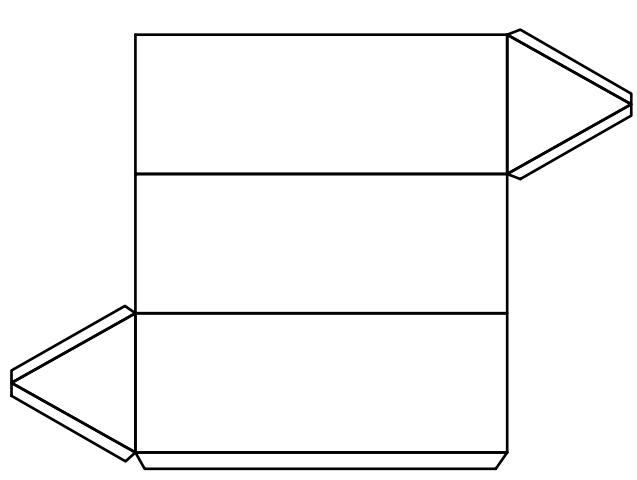
net of a pyramid

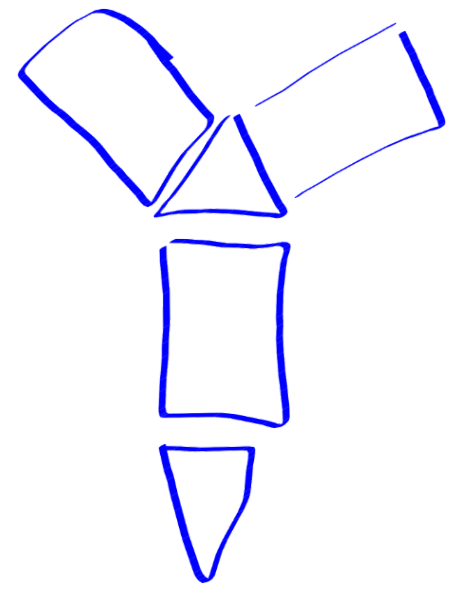
A net shows all of the faces of an object.

Two faces meet at an edge

Three or more edges meet at a vertex





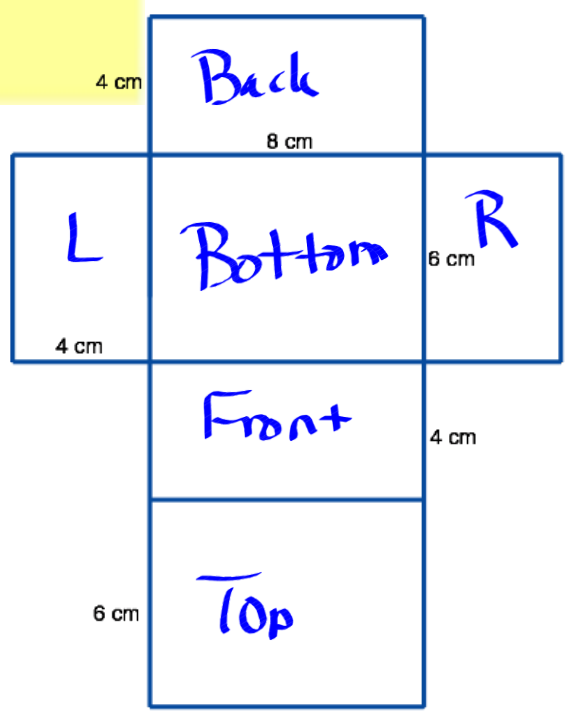


How many faces does the rectangular prism have? 6 faces

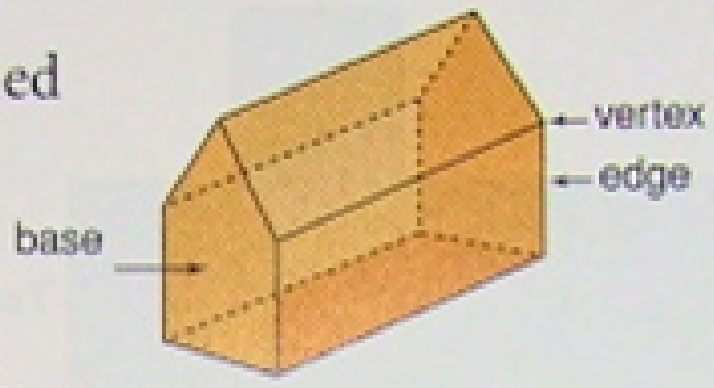
All Rectangles

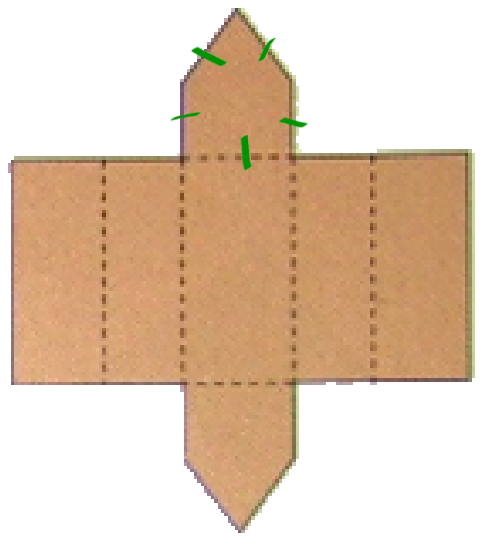
'om

ack



➤ A *prism* has 2 congruent bases and is named for its bases.
When all its faces, other than the bases, are rectangles and they are perpendicular to the bases, the prism is called a **right prism**.
Here is a right pentagonal prism and its net.





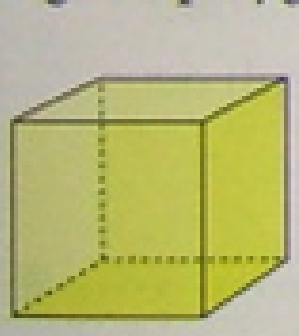
2 pentagon
5 Rectangle

Pentagonal Prism

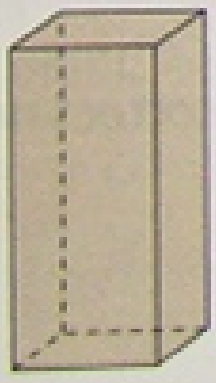
Remember

A regular polygon has all sides equal and all angles equal.

A **regular prism** has regular polygons as bases.

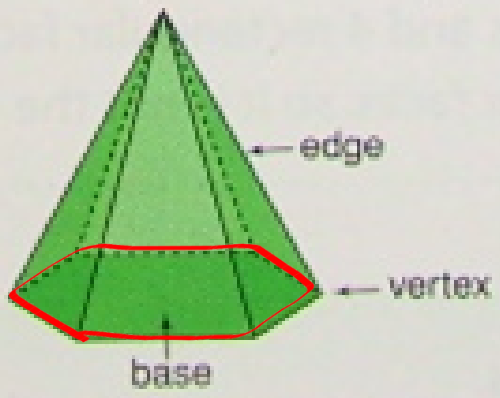


cube



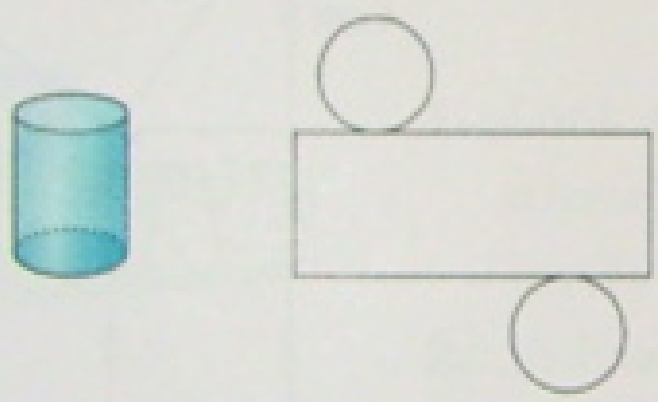
square prism

A **regular pyramid** has a regular polygon as its base. Its other faces are triangles.



regular hexagonal pyramid

➤ Here is a right cylinder and its net.
The line joining the centres of the circular bases is perpendicular to the bases.

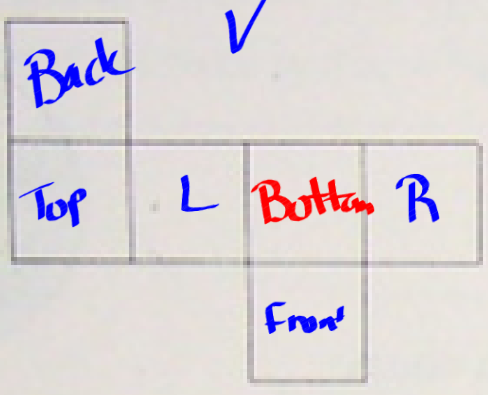


The two congruent circles are on opposite sides of the rectangle.

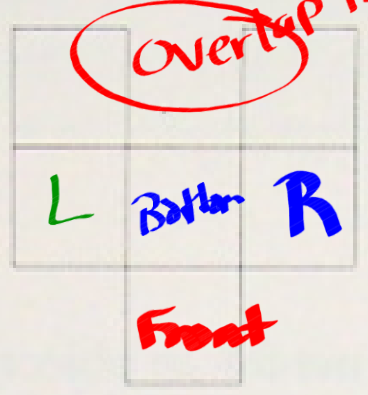
On test on Assessment

Which of the following diagrams is **not** the net of a cube?

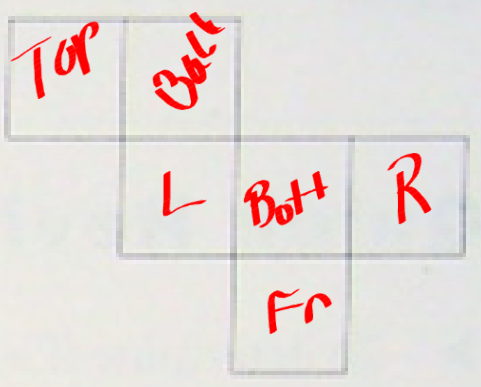
A



B



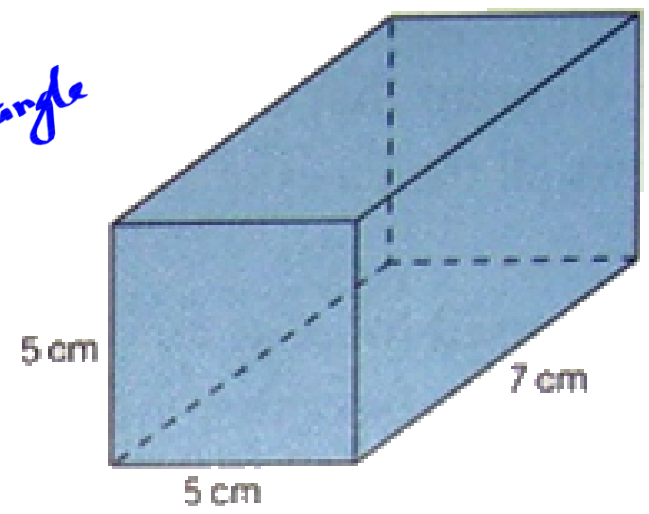
C

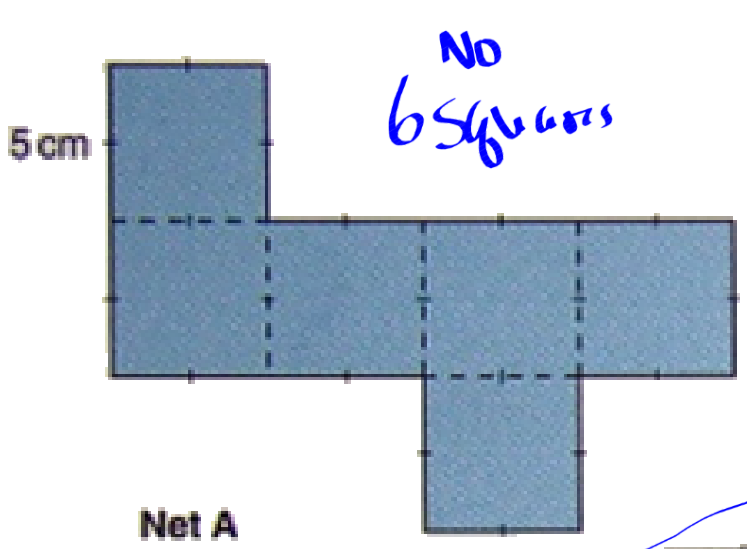


No top

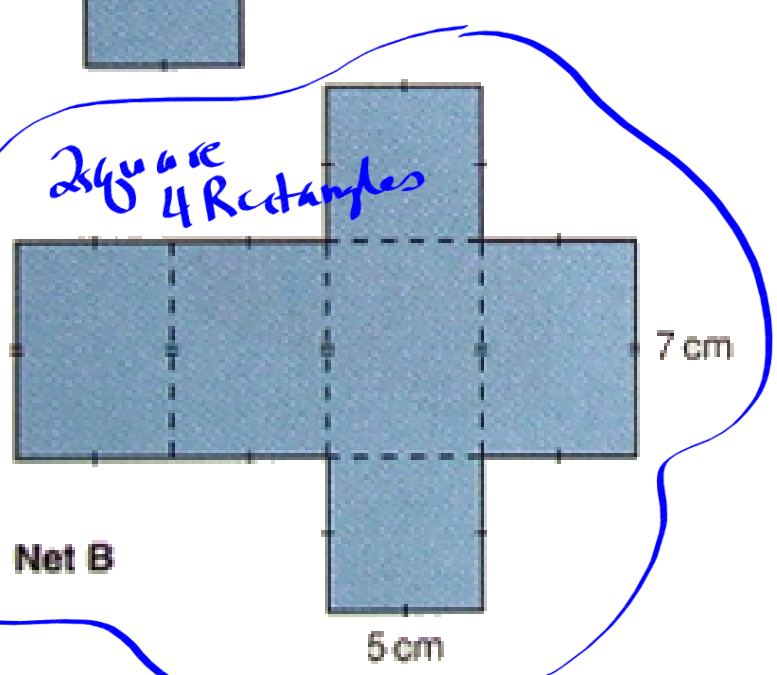
X

Which diagram is the net for this right square prism?

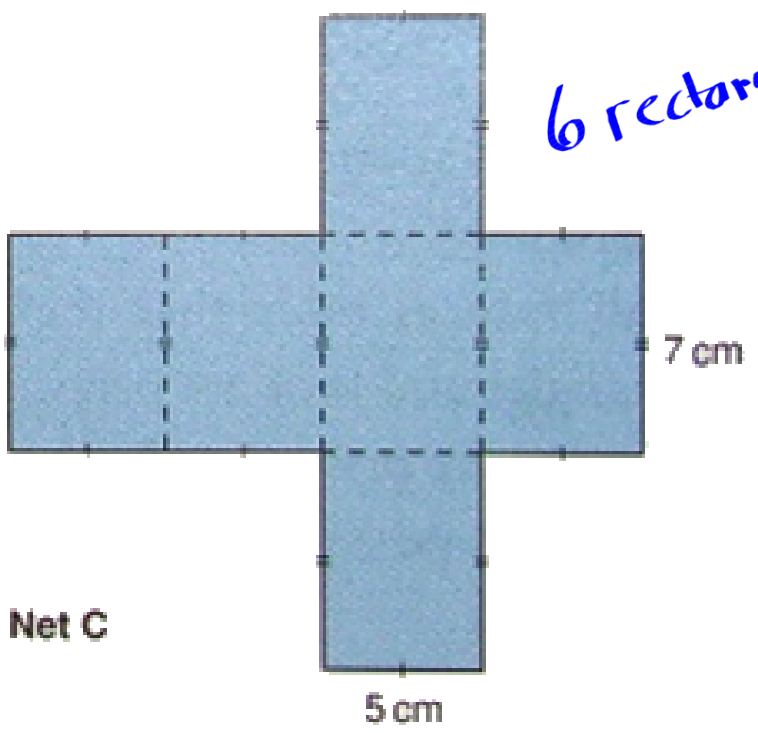




Net A



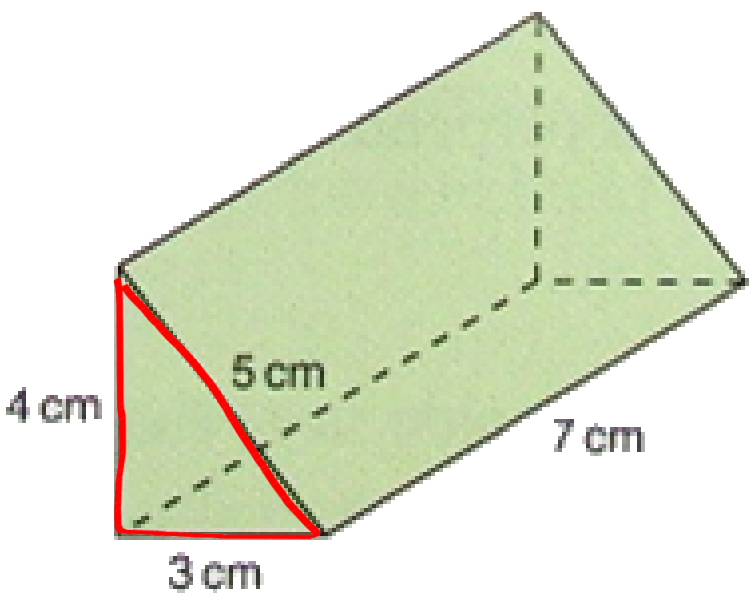
Net B

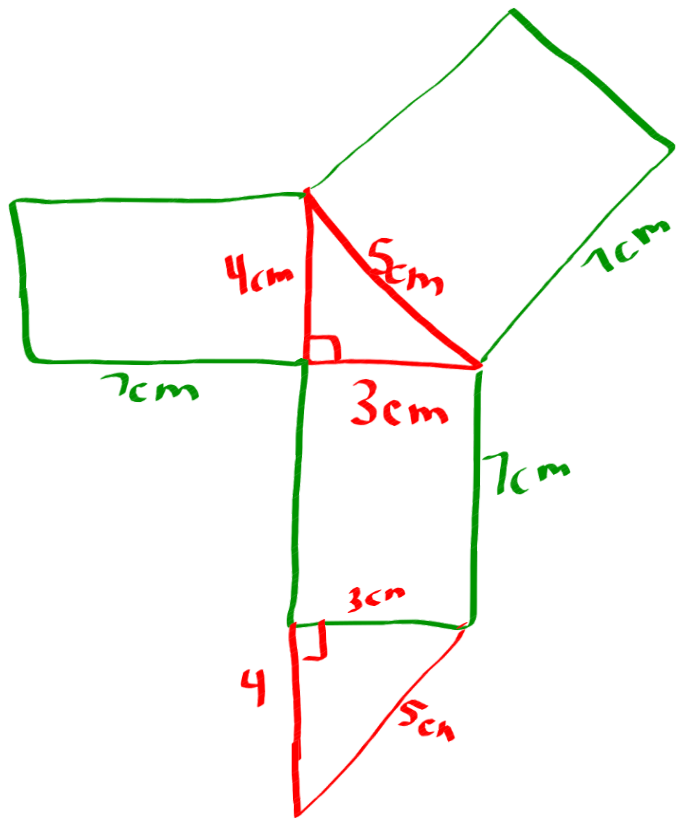


Net C

A Solution

Draw a net of this right triangular prism.





Hint: Start with the base face which is a _____



Old Grade 8 Textbook

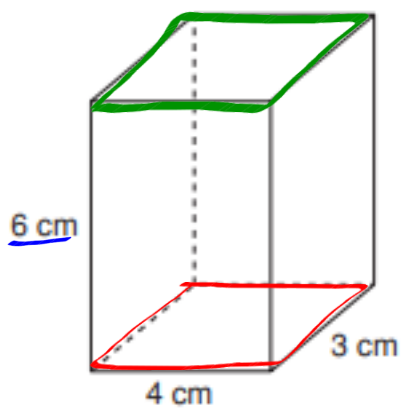
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4, #5, #6

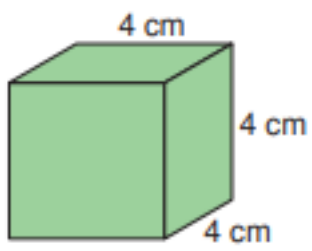
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Check

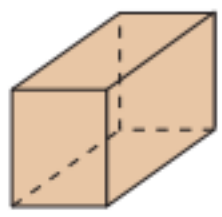
4. Use square dot paper. Draw a net of this right rectangular prism. Identify and name each face.



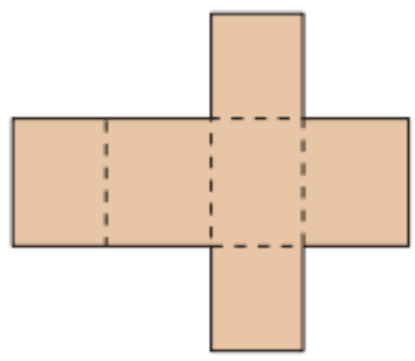
5. Use square dot paper.
Draw a net of this cube.
Identify and name each face.



6. One diagram below is the net of this object.
Choose the correct net.
Justify your choice.



a)



b)

