

Day 10 - Angle Properties

- Parallel Lines: acute angles are equal, obtuse angles are equal
- Example

Angle Properties 2

- Straight Lines: angles that make a straight line add to 180°
- Example

Polygon Properties

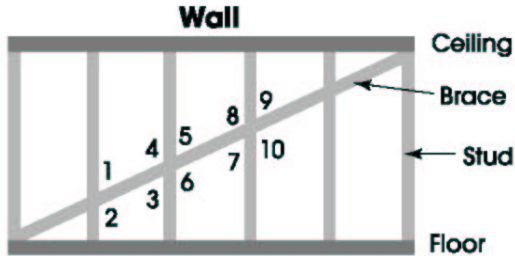
- Triangle: inside adds to 180°
- 4 Sides: inside adds to 360°
- 5 Sides: inside adds to 540°
- Pattern: add 180 each time you add a side.
- Example

OGT Preparation #10

Name _____

GE01 - Missing Angles & GE03 - Spatial intelligence and Polyhedra

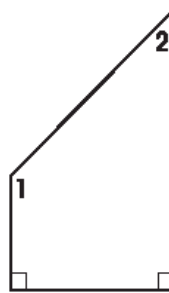
1. When framing in a wall, carpenters make sure that all vertical studs are perpendicular to the floor and ceiling. They sometimes add a diagonal brace for added support during construction (as shown in the drawing). When the vertical studs are perpendicular to the floor, which pair of angles will always be congruent?



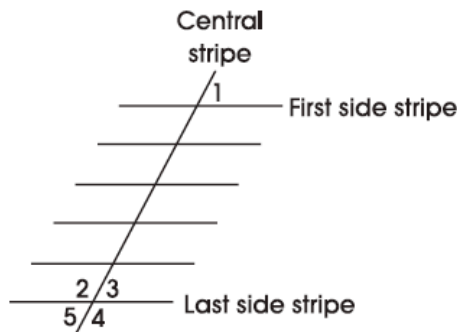
- A. angle 1 and angle 2
- B. angle 3 and angle 6
- C. angle 5 and angle 7
- D. angle 6 and angle 9

2. Ms. Chen drew a diagram for a new patio in her backyard. The measure of $\angle 1$ is 3 times as large as the measure of $\angle 2$. What is the measure of $\angle 2$?

- A. 45°
- B. 67.5°
- C. 120°
- D. 135°



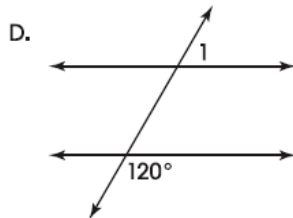
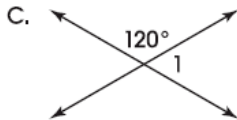
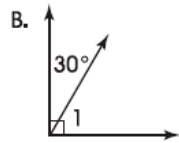
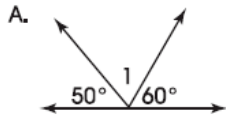
3. A worker painted stripes for spaces in a parking lot. The worker first painted a center stripe that marked the front of the parking spaces. Then he painted parallel stripes marking the sides.



Which angles will be congruent to angle 1 if all the side stripes are parallel?

- A. $\angle 2$ and $\angle 3$
- B. $\angle 2$ and $\angle 5$
- C. $\angle 3$ and $\angle 5$
- D. $\angle 4$ and $\angle 5$

4. In which figure is the measure of angle 1 **not** equal to 60° ?



5. When a marble hits a wall, it bounces off the wall at the same angle it hits the wall.

If a marble hits a wall at a 22 degree angle, what is the measure of the angle between the two paths of the marble?

- A. 44°
- B. 68°
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- D. 158°

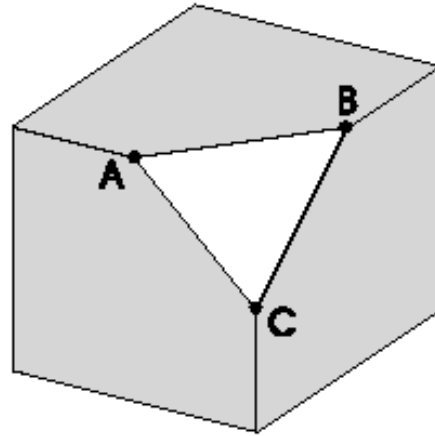


PART 2

6. Daniel cut the corner off a cube as shown in the diagram below.

Points A, B and C are the midpoints of the edges of the cube. What type of three Dimensional figure has been cut off?

- A. cone
- B. cube
- C. triangular prism
- D. triangular pyramid



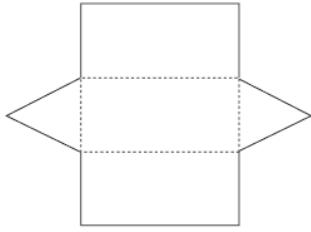
7. Josie claimed that all polyhedra have more vertices than faces. Which of these polyhedra shows that Josie's statement is not always true?

- A.
- B.
- C.
- D.

8. Penny needs to make a model of an Egyptian pyramid for her history class. She plans to cut a shape out of thick cardboard and then fold it to make a pyramid with a square base. Which of these nets or shapes could Penny use to make her model?

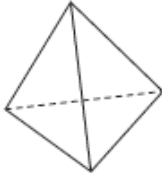
- A.
- B.
- C.
- D.

9. The figure shows the net for a three-dimensional object.

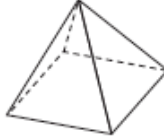


When folded, which object will this net produce?

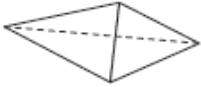
A.



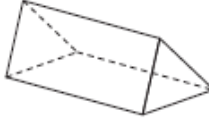
B.



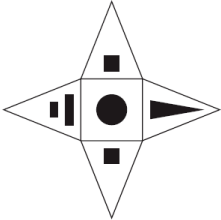
C.



D.

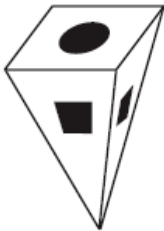


10. The net creates a pyramid.

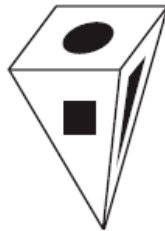


Which pyramid does this net create?

A.



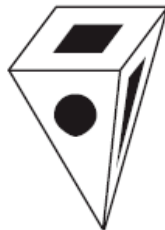
B.



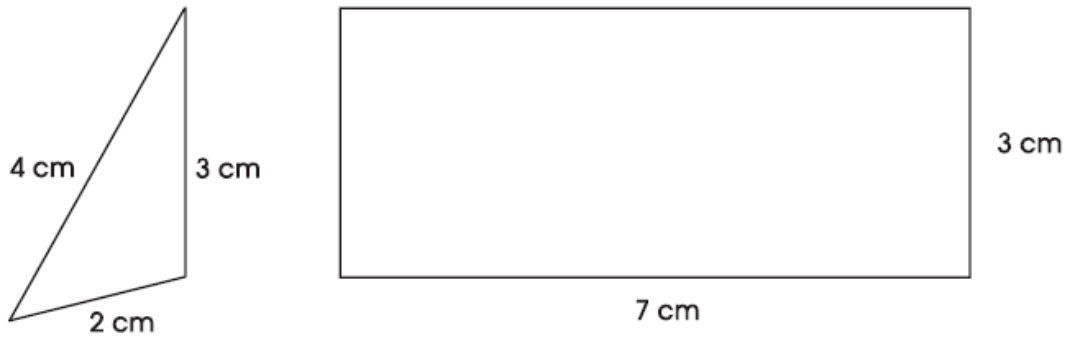
C.



D.



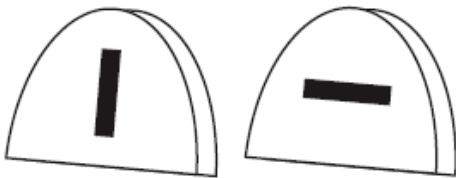
11. The diagram below shows two of the faces of a prism.



Ellen is constructing this triangular prism out of cardboard. Ellen plans to draw a shape (a net of the prism) on a piece of cardboard that she can cut out and fold to make the prism.

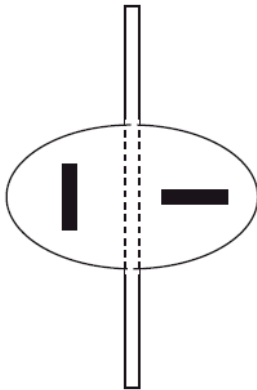
In your **Answer Document**, sketch a net of the prism that Ellen could use. Place the dimensions on the net.

12. The figure shows two views of the same object.

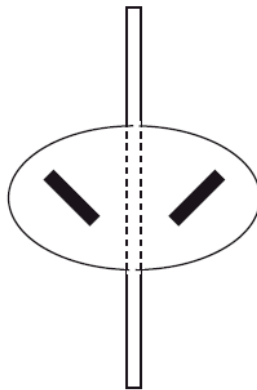


Which net will make the figure shown?

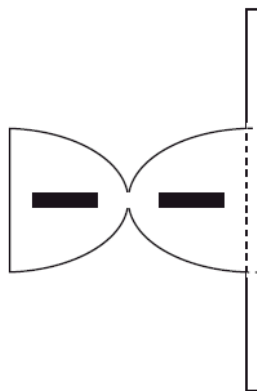
A.



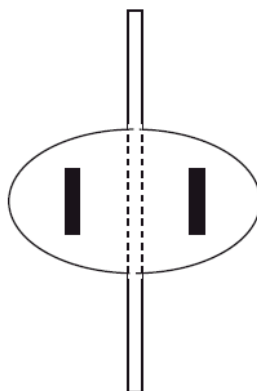
B.



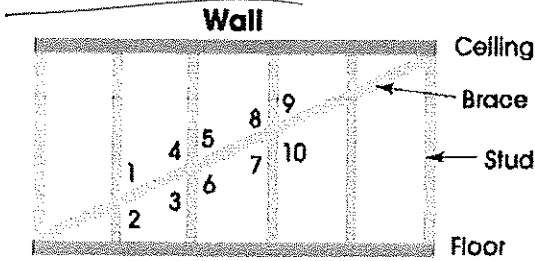
C.



D.



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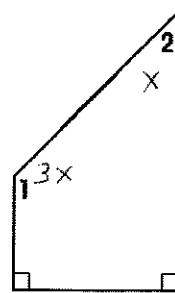
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$$x + 3x = 180$$

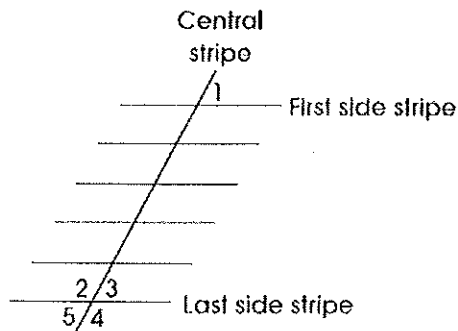
$$4x = 180$$

$$x = 45$$



3	180
4	360
5	540
6	720

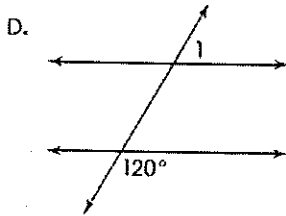
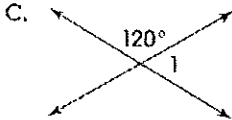
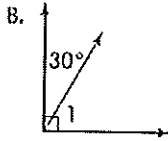
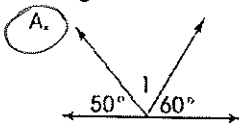
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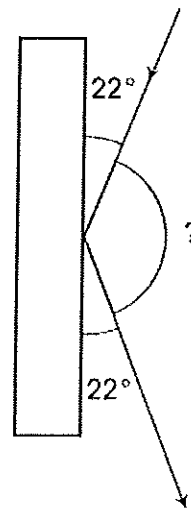


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$$180 - 22 - 22$$

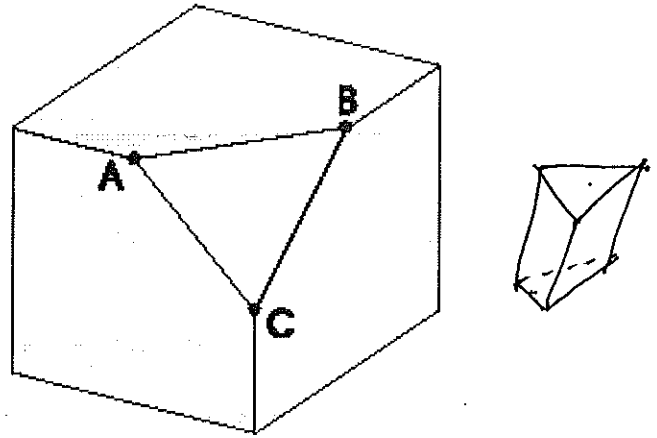


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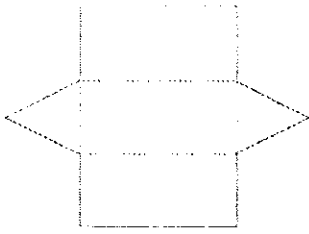
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FACES	VERT
5	6
4	4
6	8
10	7

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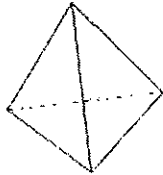
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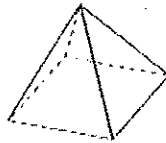


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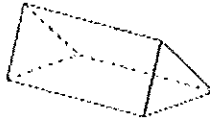
B.



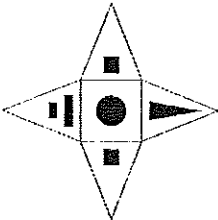
C.



D.

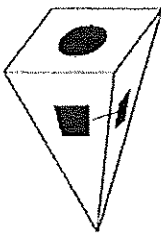


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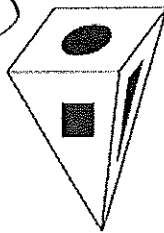


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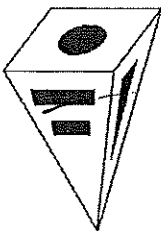
A.



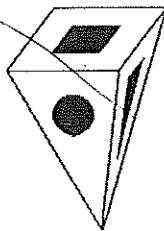
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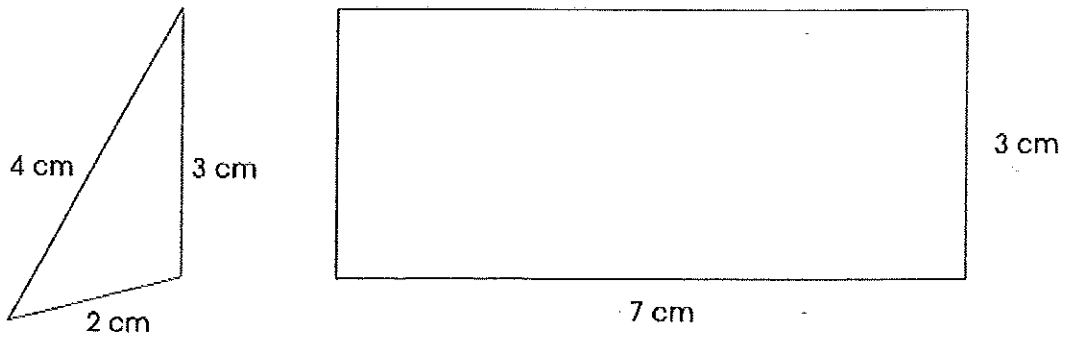
C.



D.

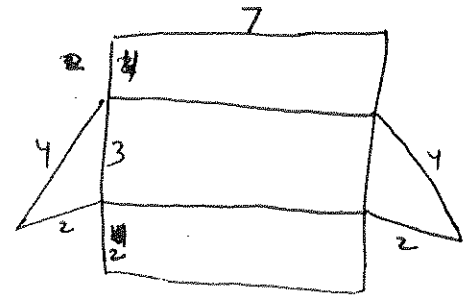


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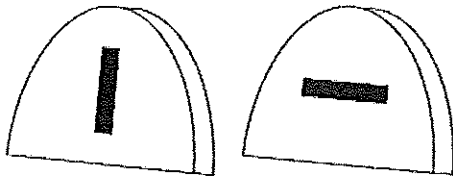


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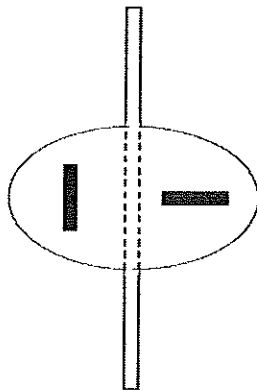


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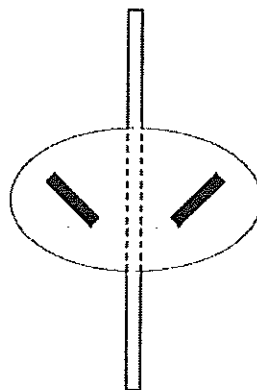


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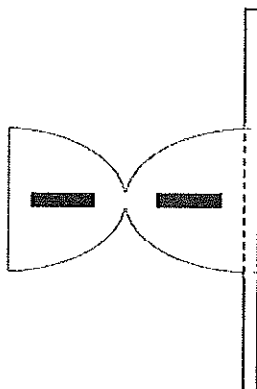
A.



B.



C.



D.

