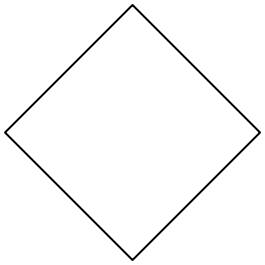
Name_____Date_____

(17A)



1. What is the name of the shape?

- ◯ square
- ◯ hexagon
- ◯ triangle
- ◯ trapezoid

(17A)

2. How many angles does this shape have?

- ◯ 2
- ◯ 4
- ◯ 6
- ◯ 8

(17A)

3. How many sides does a parallelogram have?

- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6

(17B)

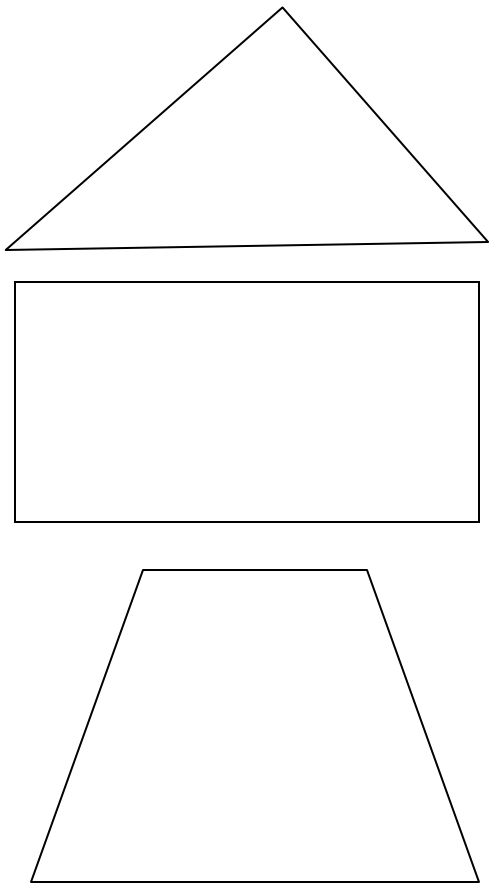
4. In the space below, draw a polygon with exactly 4 sides.

Write the name of the polygon you drew.

_____

(17B)

5. Draw a square inside the rectangle.

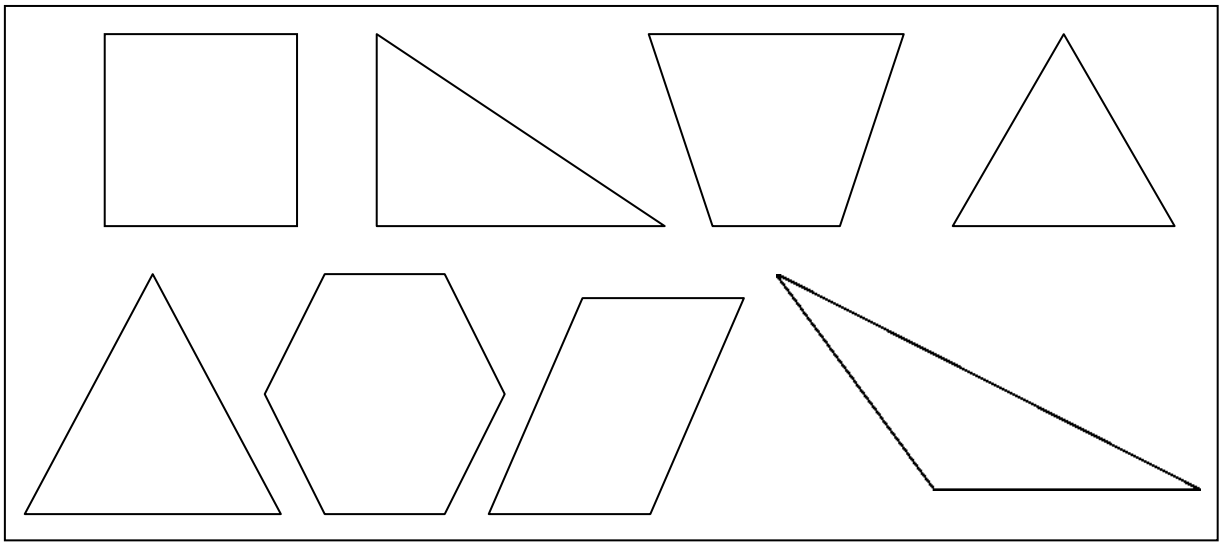


(17B)

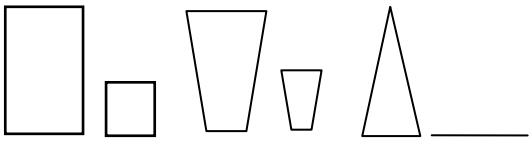
6. Draw a parallelogram on the grid.

(17B)

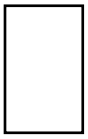
7. Put an X inside each triangle.



(22A)



8. Fill in the bubble of the missing shape in the pattern.

○ 

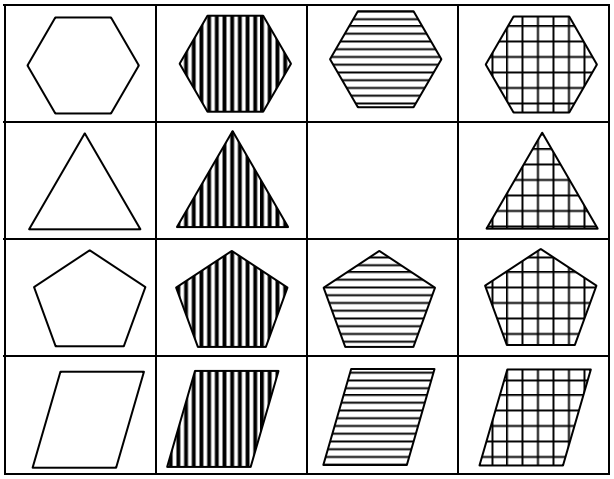
○ 

○ 

○ 

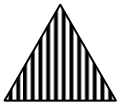
(22A)

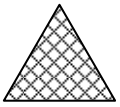
The shapes in the table follow a pattern.



9. Which shape is missing in the table?

○ 

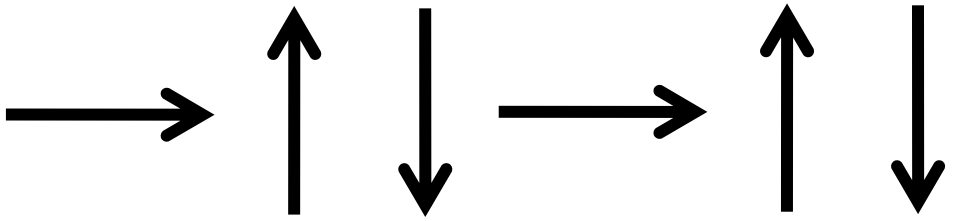
○ 

○ 

○ 

(22B)

10. Draw the missing shape at the end of the pattern.



_____

Explain why the shape you drew is the missing shape.

_____

_____

_____

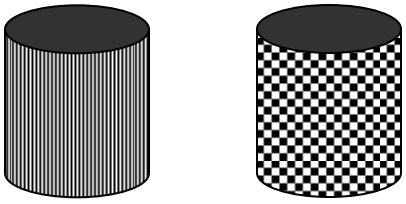
_____

_____

_____

_____

(24A)



11. How are the two cans different?

- ◯ coloring only
- ◯ coloring and size
- ◯ size only
- ◯ shape and size

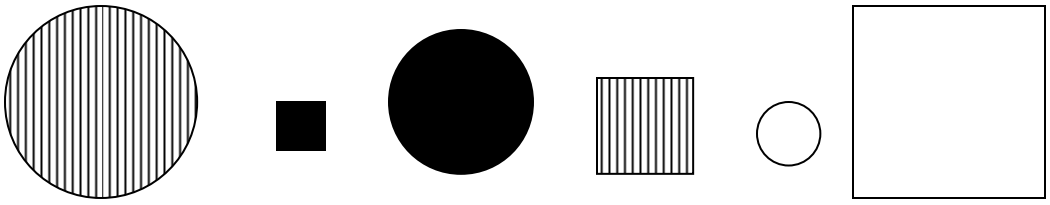
(24A)

12. How are these 3 figures the same?

- ◯ size and coloring
- ◯ size only
- ◯ shape only
- ◯ size and shape

(24B)

13. Sort all 6 of these figures into 2 groups so that the figures have something in common. Show how you grouped the figures by writing the letters from each figure into the boxes labeled Group 1 and Group 2.



Group 1	Group 2

Explain how you decided to group the figures.

_____

_____

_____

_____

_____

_____

_____

(25A)

14. José and Tito were playing a game. They were using dice numbered 1 - 6.

- Every time an **even** number was thrown, **José** got the points of the number thrown.
- Every time an **odd** number was thrown, **Tito** got the number of points of the number thrown.

The chart shows what happened in the first seventeen throws.

José	2	6	6	4	2	2	4	6	2	2
Tito	3	5	1	1	1	5	5			

1. Write the name of the person who is winning right now. _____

2. How many points does he have right now? _____

3. How many points does the other person have right now? _____

4. There is only 1 turn left. Who will **most likely** win the game? _____

5. How did you decide who will probably win the game?

_____

_____

_____

_____

_____

_____

_____

_____

_____

REVISED: Nov. 27, 2005

Topic 6: Analyzing Shapes

Obj. 17A: Identify and recognize 2-dimenstional shapes and figures, including the number of sides and angles

Obj. 22A: Extend or complete patterns, or identify rules using numbers and attributes.

Obj. 22B: Extend or complete patterns and state rules using numbers and attributes.

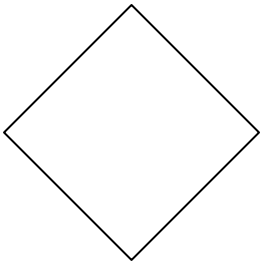
Obj. 24A: Identify objects that are the same or different by one attribute.

Obj. 24B: Sort objects into two groups by a common attribute.

Obj. 25A: Solve extended numerical and statistical problems.

ANSWERS

(17A)



1. What is the name of the shape?

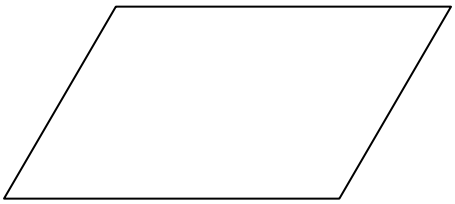
○ square ***

○ hexagon

○ triangle

○ trapezoid

(17A)



2. How many angles does this shape have?

○ 2

○ 4 ***

○ 6

○ 8

(17A)

3. How many sides does a parallelogram have?

○ 3

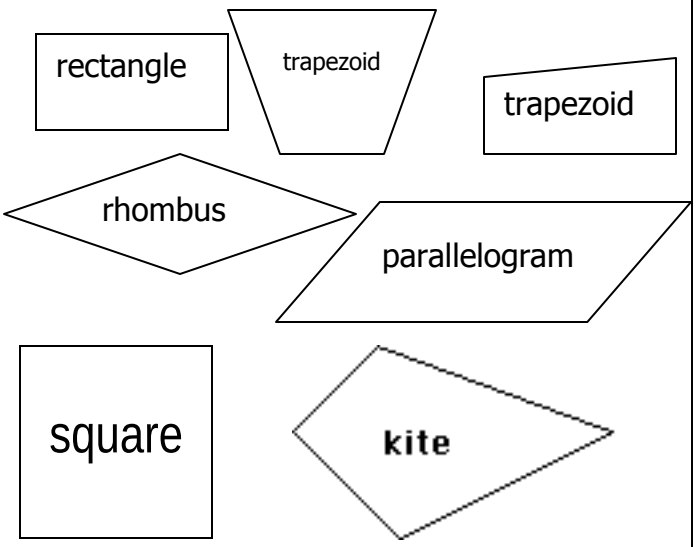
○ 4 ***

○ 5

○ 6

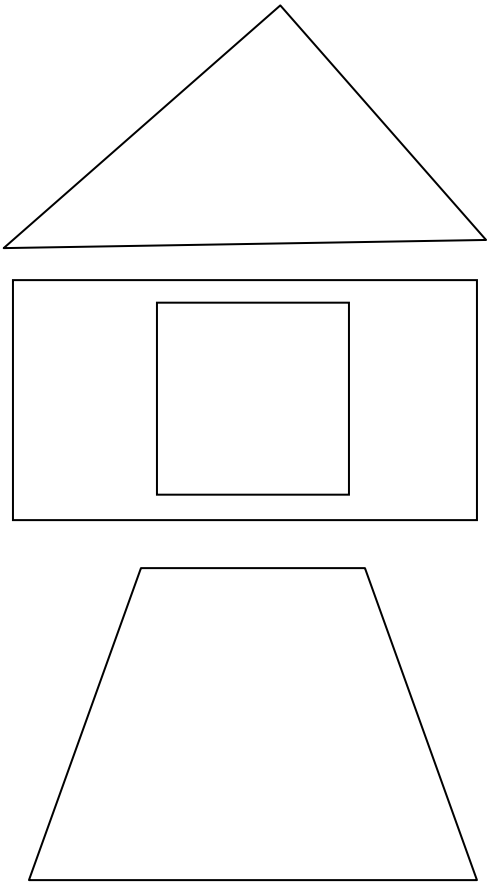
(17B)

4. In the space below, draw a polygon with exactly 4 sides. Write the name of the polygon you drew.



(17B)

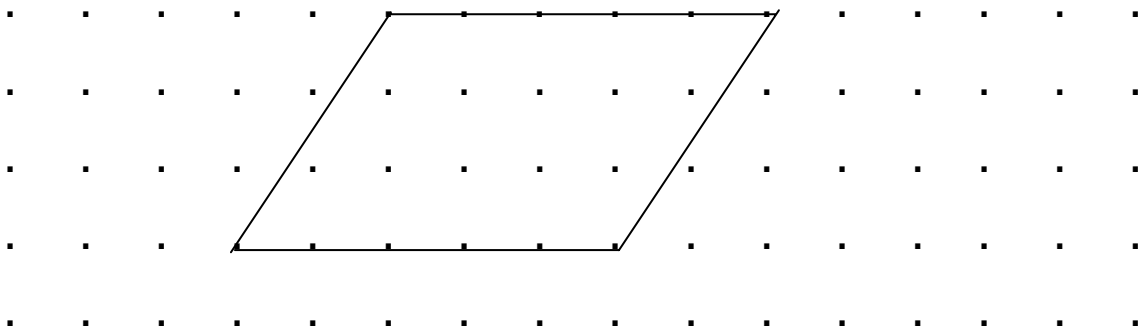
5. Draw a square inside the rectangle.



(17B)

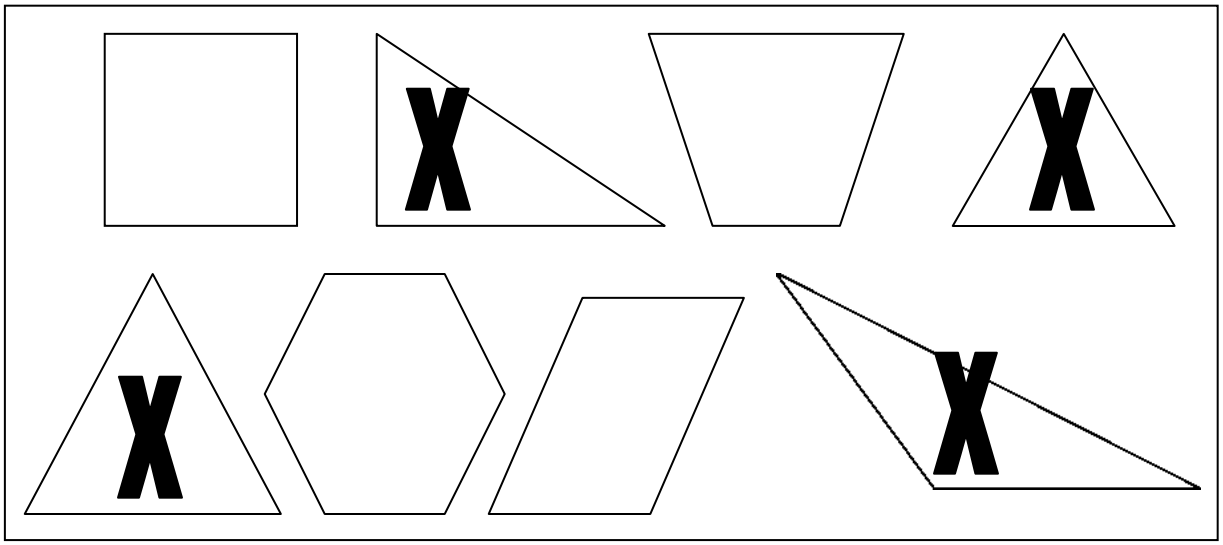
6. Draw a parallelogram on the grid.

- *A square is a special parallelogram with all equal sides and 4 right angles*
- *A rhombus is a special parallelogram with all equal sides but no right angles.*
- *A rectangle is a special parallelogram with opposite sides equal and 4 right angles (which makes a square a special rectangle)*
- *The shape shown is what is thought of as the traditional parallelogram. It has 2 pairs of parallel sides.*

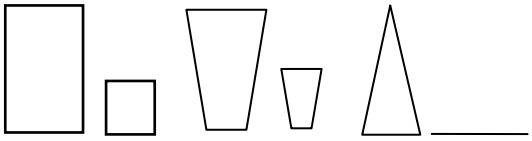


(17B)

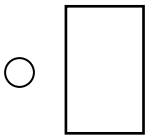
7. Put an X inside each triangle.

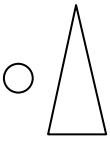


(22A)



8. Fill in the bubble of the missing shape in the pattern.





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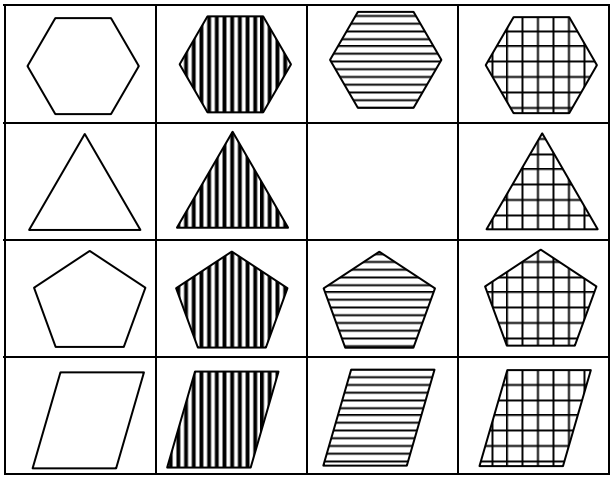
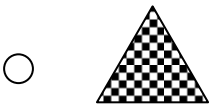
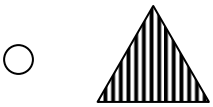
(22A)

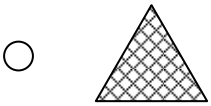
The shapes in the table follow a pattern.

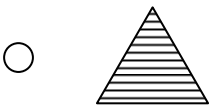


9. Which shape is missing in the table?





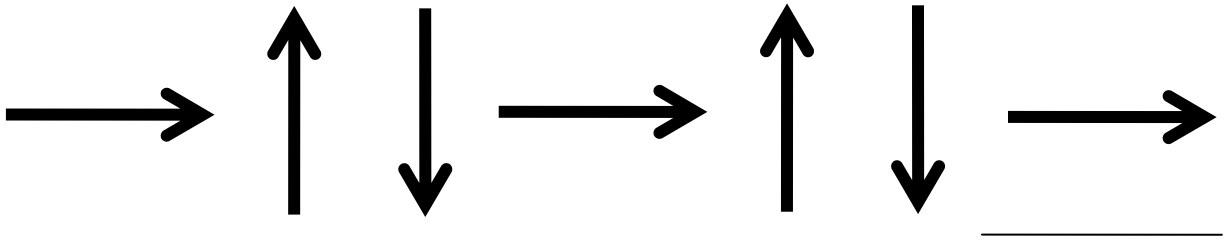




***

(22B)

10. Draw the missing shape at the end of the pattern.



Explain why the shape you drew is the missing shape.

The answer must include a description of the pattern. Example:

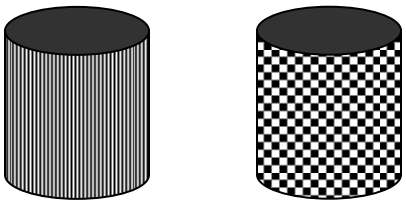
- The pattern has arrows that go across, up, down.
- There are arrows that point to the left, point up, and point down.

The answer must also include an explanation of why that particular arrow is next. Example:

- The pattern ended with an arrow pointing down. That arrow is always followed by an arrow pointing to the left.

THIS IS ONLY ONE POSSIBLE EXPLANATION.

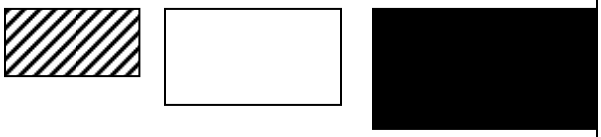
(24A)



11. How are the two cans different?

- ◯ coloring only ***
- ◯ coloring and size
- ◯ size only
- ◯ shape and size

(24A)

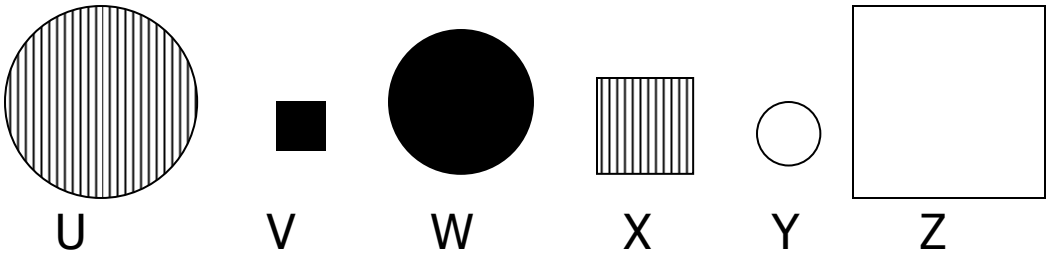


12. How are these 3 figures the same?

- ◯ size and coloring
- ◯ size only
- ◯ shape only ***
- ◯ size and shape

(24B)

13. Sort all 6 of these figures into 2 groups so that the figures have something in common. Show how you grouped the figures by writing the letters from each figure into the boxes labeled Group 1 and Group 2.



Group 1	Group 2

Explain how you decided to group the figures.

POSSIBLE SOLUTIONS:

By COLOR:
- *black (VW) vs not black (UXYZ)*
- *stripes (UX) vs not striped*
- *white (YZ vs not white*

By SIZE: W and X could be considered large or medium
- *small (VY) vs not small (UWXZ) OR*
- *small (VXY) vs large (UWZ)*
- *medium (W) vs not medium-sized (UVXYZ)*
- *Large (UZ) vs not large (VWXY)*
- *large (UWZ) vs small (VXY)*

By SHAPE:
- *circles (UWY) vs not circles (VXZ)*
- *shapes with straight sides (VXZ) vs shapes with curves (UWY)*
- *four-sided shapes (VXZ) vs shapes without four sides (UWY)*
- *squares (VXZ) vs shapes that aren't squares (UWY)*
- *shapes with right angles (VXZ) vs shapes without right angles (UWY)*
- *shapes with parallel sides (VXZ) vs shapes without parallel sides (UWY)*
- *quadrilaterals (VXZ) vs shapes that are not quadrilaterals (UWY)*
- *polygons (VXZ) vs shapes that are not polygons (UWY)*

(25A)

15. José and Tito were playing a game. They were using dice numbered 1 - 6.

- Every time an **even** number was thrown, **José** got the points of the number thrown.
- Every time an **odd** number was thrown, **Tito** got the number of points of the number thrown.

The chart shows what happened in the first seventeen throws.

José	2	6	6	4	2	2	4	6	2	2
Tito	3	5	1	1	1	5	5			

1. Write the name of the person who is winning right now. José
2. How many points does he have right now? 36
3. How many points does the other person have right now? 21
4. There is only 1 turn left. Who will **most likely** win the game? José
5. How did you decide who will probably win the game?

POSSIBLE EXPLANATION:

Jose has 36 points right now. On his next turn, the least he can get is 0 if no even number turns up in the last two turns.

Tito has 20 points right now. On his next turn, the most he could get is 5, making a total of 25. Tito cannot beat 36 points.