JEOPARDY!

Final Review

GROUP MATERIALS

- one mini whiteboard
- one whiteboard marker
- one paper towel

INSTRUCTIONS

1) Ms. Lee picks a student randomly.
2) Selected student chooses a question.
3) Group discusses question and writes FINAL WORK & SOLUTION on whiteboard.
4) When Ms. Lee calls "TIME," all groups raise their whiteboards.
5) Groups with the correct answer earn points.
6) All students jot down any necessary notes in their Math Comp Book.

HOW TO NOT LOSE POINTS...

- Students take turns writing on the whiteboard. After each question, whiteboard must be rotated CLOCKWISE.
- Follow instructions!
- Ask for hints ONLY when your group absolutely needs one. Hints cost $50.
- Don’t write/draw anything unnecessary. Don’t use the markers on anything other than the whiteboards.

JEOPARDY BOARD

CH 5: Exponentials	CH 6: System of Equations	CH 7: System of Inequalities	CH 12: Coordinate Plane Geometry	CH 14: Area & Perimeter
$100	$100	$100	$100	$100
$200	$200	$200	$200	$200
$300	$300	$300	$300	$300
$400	$400	$400	$400	$400
$500	$500	$500	$500	$500

CH 5: Exponentials - $100

Which equation represents an **exponential function**?

a. $f(x) = 3^x - 2$
b. $f(x) = 3x - 2$
c. $f(x) = 3x^2 - 2$
d. $f(x) = |3x| - 2$

Click to see answer

CH 5: Exponentials - $100

Which equation represents an **exponential function**?

a. $f(x) = 3^x - 2$

Click to return to Jeopardy Board

CH 5: Exponentials - $200

Write $\frac{1}{10,000}$ as a **single power**.

Click to see answer 

CH 5: Exponentials - $200

$$\frac{1}{10{,}000} = 10^{-4}$$

Click to return to Jeopardy Board

CH 5: Exponentials - $300

Write a function that represents the number of stickers as a function of the number of days, t.

Mario bought the following number of stickers:

- One sticker on the first day
- Four stickers on the second day
- Sixteen stickers on the third day

Click to see answer 

CH 5: Exponentials- $300

Mario bought the following number of stickers:

- One sticker on the first day
- Four stickers on the second day
- Sixteen stickers on the third day

$$f(t) = 4^t$$

Click to return to Jeopardy Board

CH 5: Exponentials - $400

Fill in the blanks to describe each transformation.

VT up VT down		$2^x + 5$ $2^x - 5$
HT right HT left	$(x + 5, y)$ $(x - 5, y)$	
Reflection across x-axis	$(x, -y)$	
Reflection across y-axis	$(-x, y)$	

Click to see answer

CH 5: Exponentials - $400

Fill in the blanks to describe each transformation.

VT up VT down	$(x, y + 5)$ $(x, y - 5)$	$f(x) = 2^x + 5$ $f(x) = 2^x - 5$
HT right HT left	$(x + 5, y)$ $(x - 5, y)$	$f(x) = 2^{x - 5}$ $f(x) = 2^{x + 5}$
Reflection across x-axis	$(x, -y)$	$f(x) = -2^x$
Reflection across y-axis	$(-x, y)$	$f(x) = 2^{-x}$

Click to return to Jeopardy Board

CH 5: Exponentials - $500

Solve:

$$3^{-2x} = \frac{1}{729}$$

Click to see answer

CH 5: Exponentials - $500

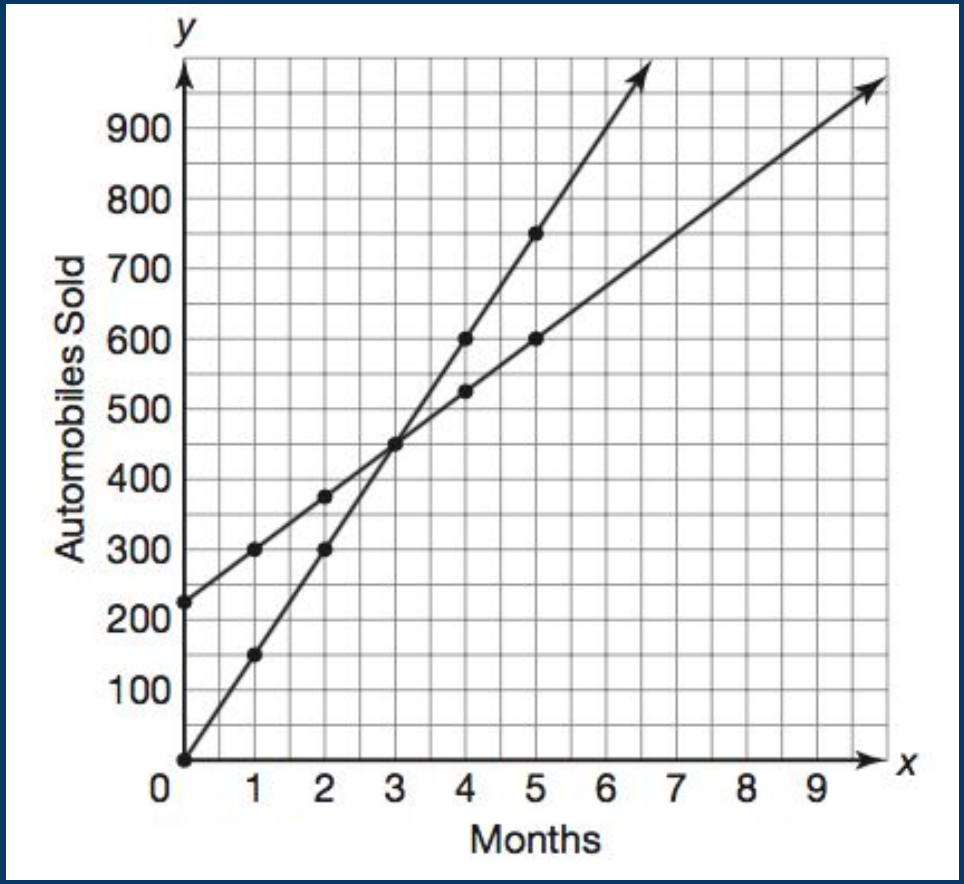
$$3^{-2x} = \frac{1}{729}$$

$$x = 3$$

Click to return to Jeopardy Board

CH 6: System of Equations - $100

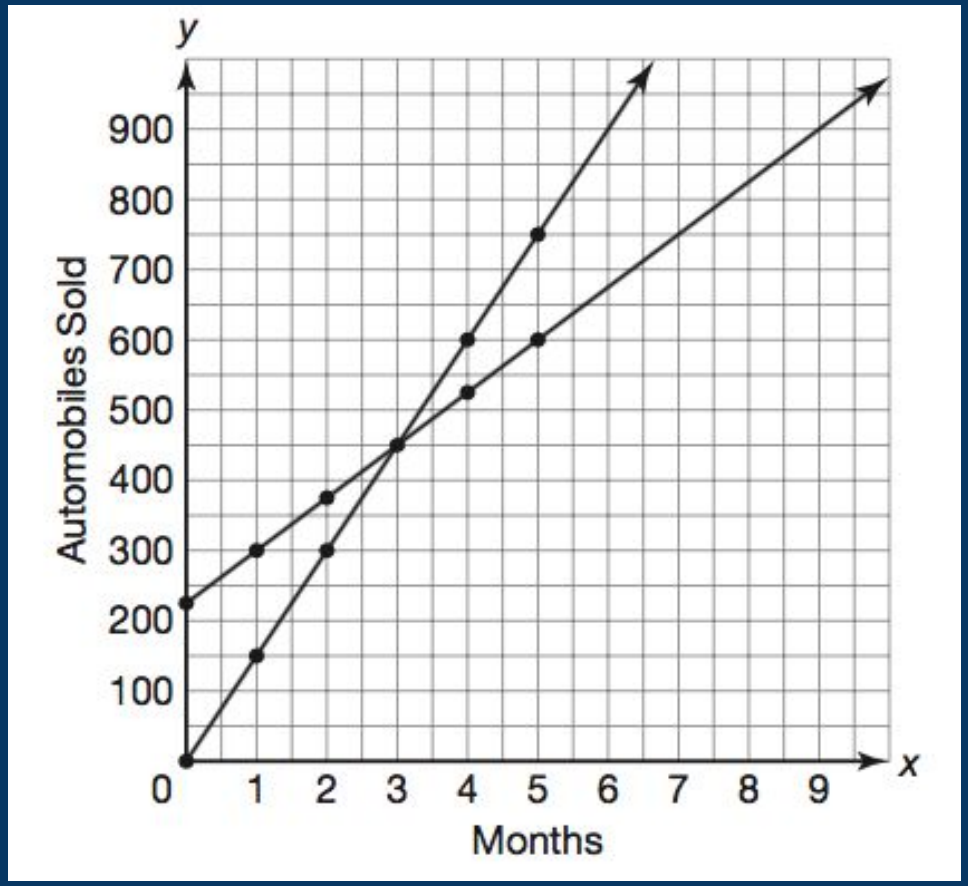
The graph shows the number of automobiles sold by two companies. What does the solution x = 3 represent?



Click to see answer

CH 6: System of Equations - $100

The solution x = 3 represents the month in which both companies sell the SAME number of automobiles.



Click to return to Jeopardy Board

CH 6: System of Equations - $200

Write a **system of equations** to represent this situation:

CrossFit offers a membership for $30 each month plus a $100 start up fee. Crunch offers a membership for $50 each month plus a $20 start up fee.

Click to see answer 

CH 6: System of Equations - $200

CrossFit offers a membership for $30 each month plus a $100 start up fee. Crunch offers a membership for $50 each month plus a $20 start up fee.

$$\begin{cases} y = 30x + 100 \\ y = 50x + 20 \end{cases}$$

Click to return to Jeopardy Board

CH 6: System of Equations - $300

Explain when it is BEST to use each method to solve a system of equations:

Graphing
Substitution
Linear Combination

Click to see answer 

CH 6: System of Equations - $300

Graphing: Equations are easy to graph and the INTERSECTION POINT is clear.
Substitution: One of the variables can easily be ISOLATED.
Linear Combination: One set of the variables can be made INVERSES.

Click to return to Jeopardy Board

CH 6: System of Equations - $400

Finest Cooks offers a membership to take cooking classes for an initial fee of $60 plus $20 for each lesson. Professional Cooks offers a membership to take cooking classes for an initial fee of $15 plus $35 for each lesson. After how many cooking classes will the cost at both companies be the same?

Click to see answer 

CH 6: System of Equations - $400

$$\begin{cases} y = 60 + 20x \\ y = 15 + 35x \end{cases}$$

After how 3 cooking classes, the costs at both companies will be the same.

Click to return to Jeopardy Board

CH 6: System of Equations - $500

Fill in the blanks to describe the different types of solutions for systems of equations.

	Algebraic solution	Graphical Solution
One solution	x = 5 y = -3 → **(5, -3)**	
	5 = -3 (false statement)	
	-3 = -3 (true statement)	

Click to see answer

CH 6: System of Equations - $500

Fill in the blanks to describe the different types of solutions for systems of equations.

	Algebraic solution	Graphical Solution
One solution	$x = 5 \quad y = -3$ $\rightarrow$ **(5, -3)**	one intersection point
No solution	$5 = -3$ (false statement)	parallel lines $\rightarrow$ no intersection point
Infinitely many solutions	$-3 = -3$ (true statement)	same line $\rightarrow$ infinitely many intersection points

Click to return to Jeopardy Board

CH 7: System of Inequalities - $100

When graphing inequalities, how do you determine whether to use a solid or dashed line?

Click to see answer 

CH 7: System of Inequalities - $100

solid line ≤ or ≥

dashed line < or >

Click to return to Jeopardy Board

CH 7: System of Inequalities - $200

Which is a **solution** to

$$\begin{cases} y > 2x + 5 \\ y < -3x + 5 \end{cases}$$

A. (0, 5) B. (2, 3)

C. (1, 8) D. (-3, 0)

Click to see answer

CH 7: System of Inequalities - $200

Which is a **solution** to

$$\begin{cases} y > 2x + 5 \\ y < -3x + 5 \end{cases}$$

A. (0, 5) B. (2, 3)

C. (1, 8) D. (-3, 0)

Click to return to Jeopardy Board

CH 7: System of Inequalities - $300

Write a **system of inequalities** to represent this situation:

A company produces white rice and brown rice. There is an expected demand of at least 200 pounds of white rice and 50 pounds of brown rice each day. A total of at least 300 pounds of rice must be produced each day.

Click to see answer 

CH 7: System of Inequalities - $300

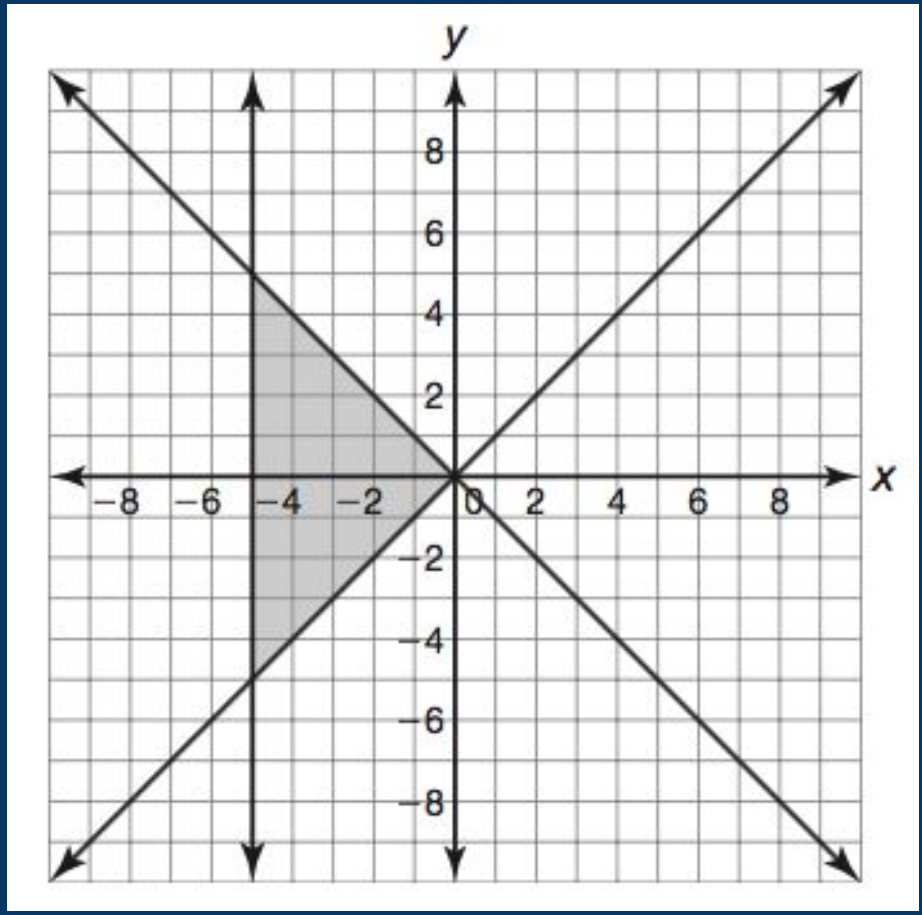
A company produces white rice and brown rice. There is an expected demand of at least 200 pounds of white rice and 50 pounds of brown rice each day. A total of at least 300 pounds of rice must be produced each day.

$$\begin{cases} x \geq 200 \\ y \geq 50 \\ x + y \geq 300 \end{cases}$$

Click to return to Jeopardy Board

CH 7: System of Inequalities - $400

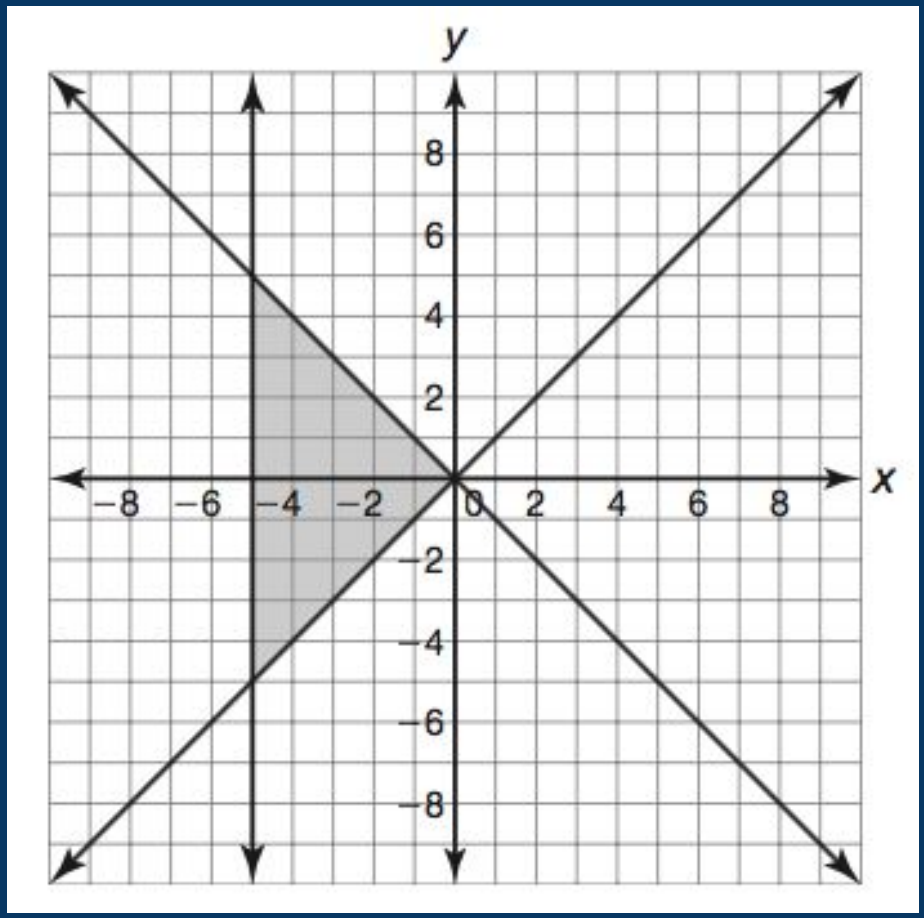
Write a system of inequalities to represent the graph.



Click to see answer

CH 7: System of Inequalities - $400

$$\begin{cases} x \geq -5 \\ y \leq -x \\ y \geq x \end{cases}$$



Click to return to Jeopardy Board

CH 7: System of Inequalities - $500

BONUS

Click to see answer 

CH 7: System of Inequalities - $500

BONUS

Click to return to Jeopardy Board

CH 12: Coordinate Plane Geometry - $100

BONUS

Click to see answer

CH 12: Coordinate Plane Geometry - $100

BONUS

Click to return to Jeopardy Board

CH 12: Coordinate Plane Geometry - $200

What is the difference between the slopes of parallel and perpendicular lines?

Click to see answer

CH 12: Coordinate Plane Geometry - $200

Parallel lines have the SAME slopes.

Perpendicular lines have OPPOSITE RECIPROCAL slopes.

Click to return to Jeopardy Board

CH 12: Coordinate Plane Geometry - $300

How do horizontal and vertical translations of a point affect its coordinates?

Click to see answer

CH 12: Coordinate Plane Geometry - $300

Horizontal translations affect the x-coordinate. Vertical translations affect the y-coordinate.

Click to return to Jeopardy Board

CH 12: Coordinate Plane Geometry - $400

Write an equation for…

a vertical line

and

a horizontal line

Click to see answer 

CH 12: Coordinate Plane Geometry - $400

vertical line x =

horizontal line y =

Click to return to Jeopardy Board

CH 12: Coordinate Plane Geometry - $500

Angle XYZ's endpoints are X(5, -2), Y(-1, 3), and Z(4, 10). Chris translates the angle 9 units to the right and labels the new angle X'Y'Z'.

What are the coordinates of the endpoints of X'Y'Z'?

Click to see answer

CH 12: Coordinate Plane Geometry - $500

Angle XYZ's endpoints are X(5, -2), Y(-1, 3), and Z(4, 10). Chris translates the angle 9 units to the right and labels the new angle X'Y'Z'.

X' (14, -2)
Y' (8, 3)
Z' (13, 10)

Click to return to Jeopardy Board

CH 14: Area & Perimeter - $100

TRUE or FALSE:

Translating a figure changes the figure's perimeter and area.

Click to see answer

CH 14: Area & Perimeter - $100

FALSE…

Translating a figure simply moves it. The figures size does not change.

Click to return to Jeopardy Board

CH 14: Area & Perimeter - $200

Explain how to find...

Perimeter

Area

Click to see answer

CH 14: Area & Perimeter - $200

Perimeter = add up all the side lengths of the figure

Area = bh rectangle

Area = $\frac{bh}{2}$ triangle

Click to return to Jeopardy Board

CH 14: Area & Perimeter - $300

A triangle has vertices at X(6, -1), Y(3, -4), and Z(6,-6).

What is the height of the triangle?

Click to see answer

CH 14: Area & Perimeter - $300

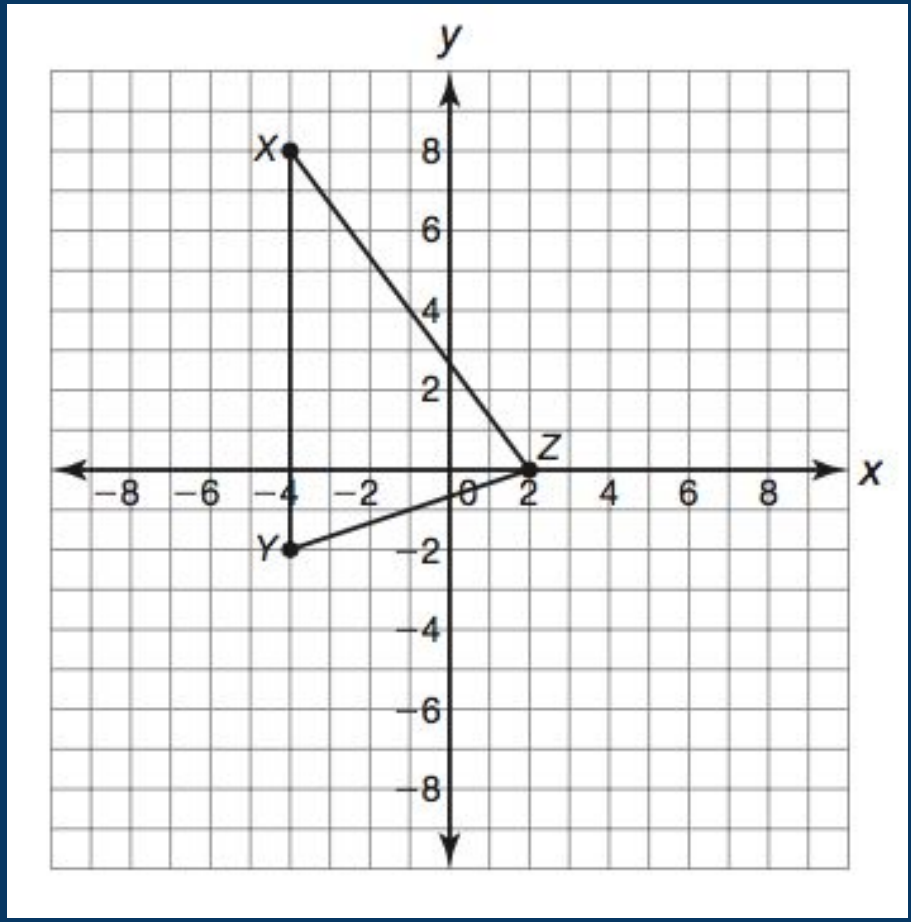
A triangle has vertices at X(6, -1), Y(3, -4), and Z(6,-6).

height = 3 units

Click to return to Jeopardy Board

CH 14: Area & Perimeter - $400

Explain how you could double the area of this triangle.



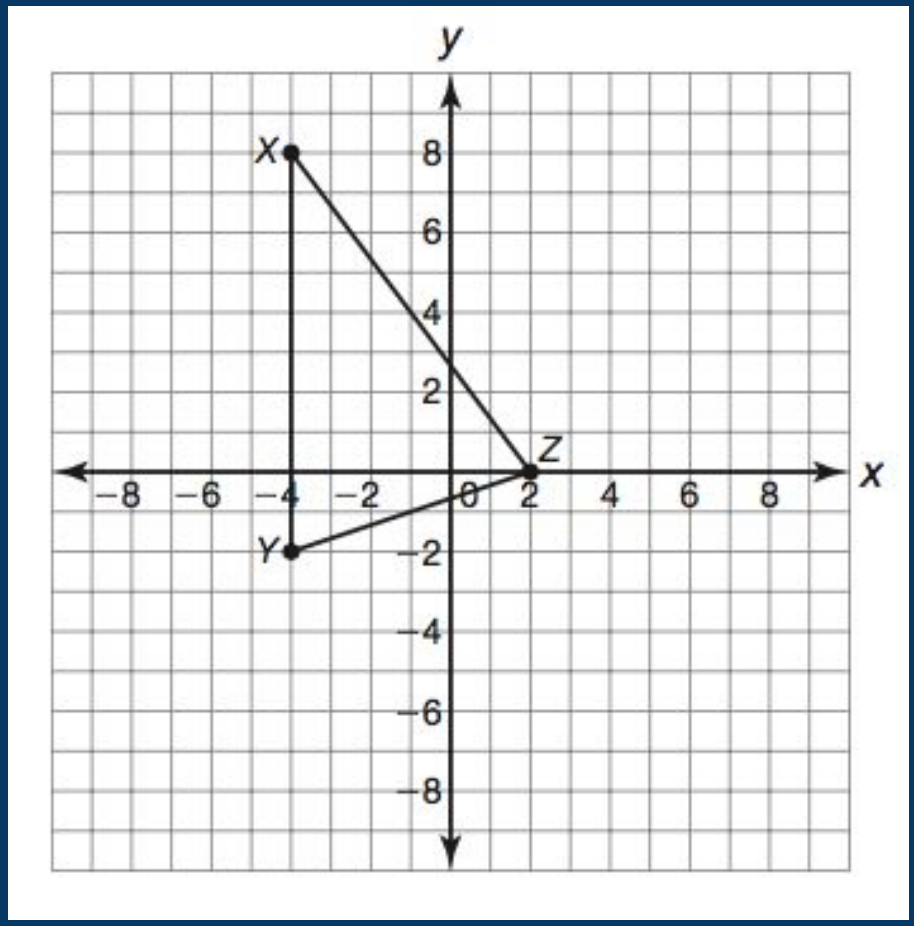
Click to see answer

CH 14: Area & Perimeter - $400

Translate Y to (-4, -12)

Or

Translate Z to (8, 0)



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CH 14: Area & Perimeter - $500

BONUS

Click to see answer

CH 14: Area & Perimeter - $500

BONUS

Click to return to Jeopardy Board