Wyoming

DEPARTMENT OF EDUCATION

Leading the Drive to Top 5!

PAWS
Mathematics
Grade 8

Released Items
With Data

2014

Mathematics Released Items with Data
Introduction Page / Data Definitions

This Released Items with Data document provides a subset of items from the 2013 administration of the PAWS test. The data for an item is on the page that follows that item. The following provides definitions for the data fields on the data page.

Item Information

Title: Title of the passage/stimulus the item belongs to

2012 WyCPS Domain: The reporting category of the state content standards

2012 WyCPS Standard: State content standard

Item Code: Identification code assigned to the item

Admin: The year an item is administered

Item Type: The mode in which a student responds (MC means multiple-choice)

Correct Answer: The option letter (A, B, C, or D) that corresponds to the correct answer

Item Dok: The item's Depth of Knowledge designation, also called Cognitive Complexity;
1 - Recall and reproduction
2 - Skills and concepts
3 - Strategic and extended thinking

Total N-count: Number of students counted as taking the test in which the item appears during the listed administration (Includes item omissions)

Pvalue/Mean Score: For a multiple-choice item, the percent of students choosing the correct answer

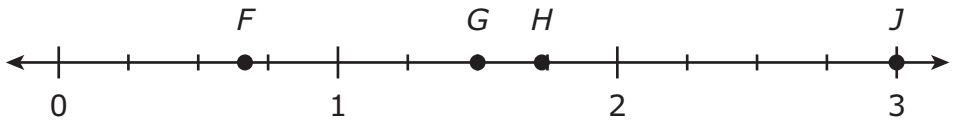
Score Analysis

MC Row: Answer options available for students to choose from (including those who do not choose any option); an asterisk designates the correct answer

%Choosing Row: Percent of students choosing an option (or omitting)

Item Notes: Area where user can make notes

00 **Which point on the number line shown best represents $\sqrt{3}$?**



A) Point *F*

B) Point *G*

C) Point *H*

D) Point *J*

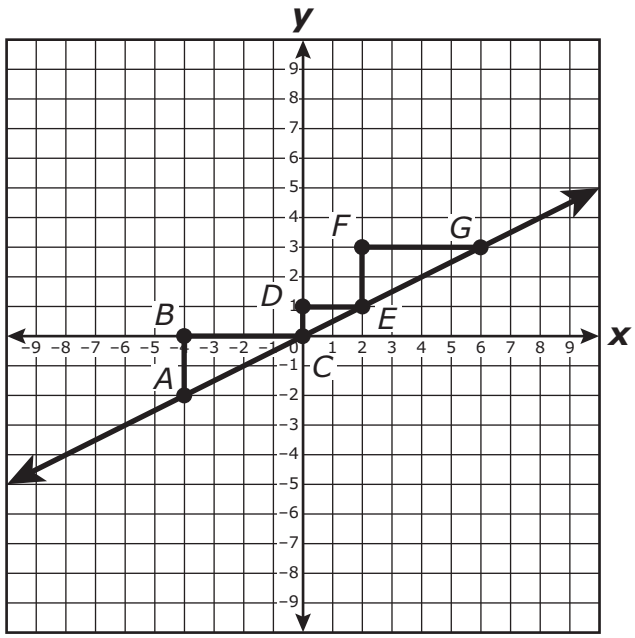
Item Information	
Common Core Domain:	The Number System
Common Core Cluster:	Know that there are numbers that are not rational, and approximate them by rational numbers.
Common Core Standard:	8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
Item Code:	VF492880

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	C	2	670	0.19

Score Analysis					
MC	**A**	**B**	**C***	**D**	**Omit**
%Choosing	14.03	37.91	18.955	28.955	0.149

Item Notes

00 **Triangles *ABC*, *CDE*, and *EFG* are shown on the coordinate grid.**



Which ratio represents the value of the slope of $\overleftrightarrow{AG}$?

A) $\frac{AB}{EF}$

B) $\frac{CD}{DE}$

C) $\frac{AE}{EG}$

D) $\frac{GF}{FE}$

Item Information	
2012 WyCPS Domain:	Expressions and Equations
2012 WyCPS Cluster:	Understand the connections between proportional relationships, lines, and linear equations.
2012 WyCPS Standard:	8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.
Item Code:	VF491999

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	B	2	667	0.262

Score Analysis					
MC	**A**	**B***	**C**	**D**	**Omit**
%Choosing	28.936	26.237	34.333	10.195	0.3

Item Notes

00 **Two functions are given, one as a verbal description and one as an equation.**

Function 1
The perimeter of a square, y, is equal to the length of one side of the square, x, times 4.

Function 2
$y = 2x + 5$

Which of the following can be concluded about the two functions?

A) The rate of change for Function 1 is less than the rate of change for Function 2.

B) The rate of change for Function 1 is greater than the rate of change for Function 2.

C) For all positive inputs of x, the output for Function 1 is less than the output for Function 2.

D) For all positive inputs of x, the output for Function 1 is greater than the output for Function 2.

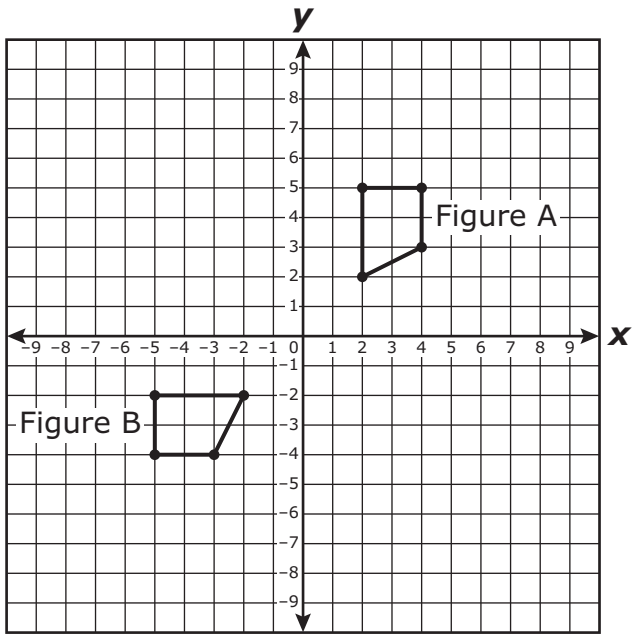
Item Information	
2012 WyCPS Domain:	Functions
2012 WyCPS Cluster:	Define, evaluate, and compare functions.
2012 WyCPS Standard:	8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.
Item Code:	VF492360

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	B	2	672	0.345

Score Analysis					
MC	**A**	**B***	**C**	**D**	**Omit**
%Choosing	17.113	34.524	28.274	19.792	0.298

Item Notes

00 **Two figures are shown on the coordinate grid.**



Which sequence of transformations would map Figure A to Figure B?

A) Rotate Figure A 90° clockwise about the origin and reflect the resulting figure across the *x*-axis.

B) Rotate Figure A 90° clockwise about the origin and translate the resulting figure 7 units to the left.

C) Rotate Figure A 90° counterclockwise about the origin and translate the resulting figure 6 units down.

D) Rotate Figure A 90° counterclockwise about the origin and reflect the resulting figure across the *x*-axis.

Item Information	
2012 WyCPS Domain:	Geometry
2012 WyCPS Cluster:	Understand congruence and similarity using physical models, transparencies, or geometry software.
2012 WyCPS Standard:	8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
Item Code:	VF493125

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	D	2	665	0.436

Score Analysis					
MC	**A**	**B**	**C**	**D***	**Omit**
%Choosing	25.714	14.887	15.188	43.609	0.602

Item Notes

00 **An artist created a sculpture composed of 15 cones made out of concrete. Each cone was 7 inches tall and had a radius of 3 inches. Which value is closest to the total amount of concrete that the artist used to make the sculpture?**

A) 165 cu in.

B) 247 cu in.

C) 660 cu in.

D) 990 cu in.

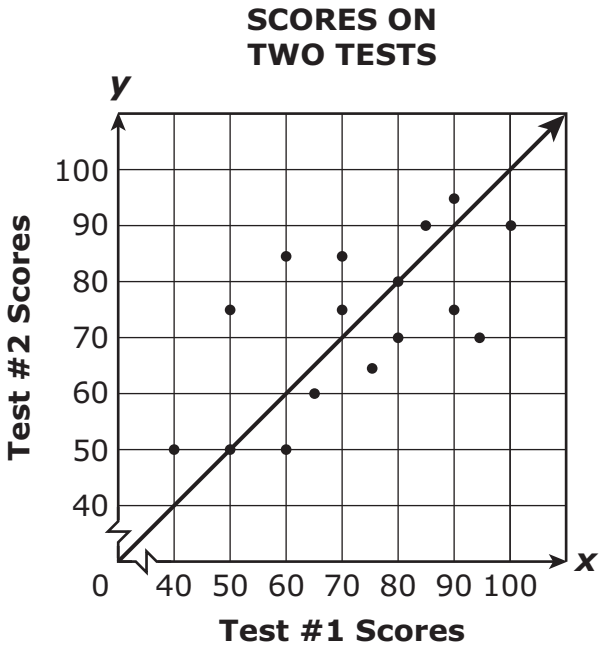
Item Information	
2012 WyCPS Domain:	Geometry
2012 WyCPS Cluster:	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.
2012 WyCPS Standard:	8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.
Item Code:	VF494978

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	D	2	672	0.131

Score Analysis					
MC	**A**	**B**	**C**	**D***	**Omit**
%Choosing	17.56	41.071	28.125	13.095	0.149

Item Notes

00 **The scores of 16 students on two of their math tests are shown in the scatter plot. A line has been drawn to show where the students' scores on both tests would be the same.**



Which statement represents a valid conclusion that is best supported by this scatter plot?

A) The majority of students had a lower score on Test #2 than Test #1.

B) The majority of students had a higher score on Test #2 than Test #1.

C) The majority of students had a score that is less than or equal to 70 on both tests.

D) The majority of students had a score that is greater than or equal to 70 on both tests.

Item Information	
2012 WyCPS Domain:	Statistics and Probability
2012 WyCPS Cluster:	Investigate patterns of association in bivariate data.
2012 WyCPS Standard:	8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
Item Code:	VF492439

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	D	2	667	0.435

Score Analysis					
MC	**A**	**B**	**C**	**D***	**Omit**
%Choosing	14.243	33.583	7.946	43.478	0.75

Item Notes