8th Grade EOG Review - Concepts

Concept 1 - Transformations (8.G.1 (a,b,c), 8.G.2, 8.G.3, 8.G.4)

Congruence Transformations

Preimage - _____ Image - _____

In many transformations, the image keeps the same shape and size as the preimage - they are _____.

These transformations are:

Translations - _____ Reflections - _____

Rotations - _____

Discovery: On the first graph below, plot preimage points A (1, 5), B (3, 4), and C (2, 6).

Reflect point A over the X-axis to create image point A'. What are its coordinates? _____

Reflect point B over the Y-axis to create image point B'. What are its coordinates? _____

Translate point C right 3, down 5 to create image point C'. What are its coordinates? _____

What do you notice about the relationships of the new image coordinates to the preimage coordinates?

Similarity Transformations

In other transformations, the image keeps the shape but changes size from the preimage.

Dilation - _____

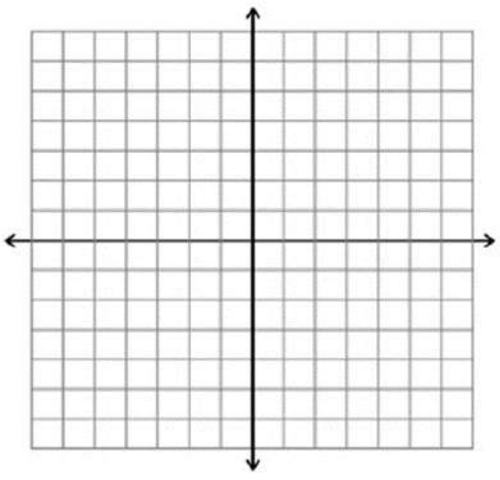
Scale Factor - _____

Discovery: On the second graph below, graph preimage segment AB, with A (2, -3) and B(2, 1).

Dilate the segment by a scale factor of 2 to create image segment A'B'. What are the coordinates? _____

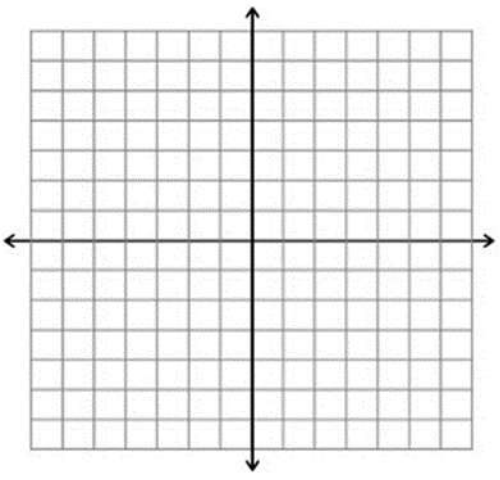
What is the length of AB? _____ What is the length of A'B'? _____

How does this relate to the scale factor?



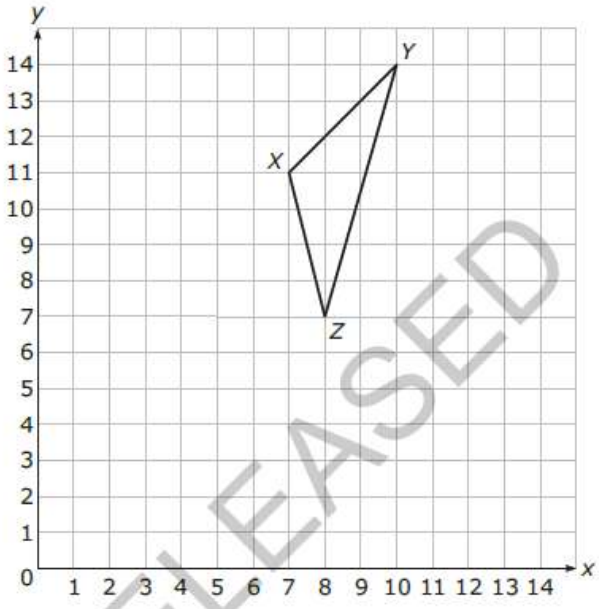
Congruence

Similarity



Concept 1 Released EOG Questions (8.G.1 (a,b,c), 8.G.2, 8.G.3, 8.G.4)

24 △*XYZ* will be translated so that the coordinates of *X′* are (5, 11)



What will be the coordinates of *Z′*?

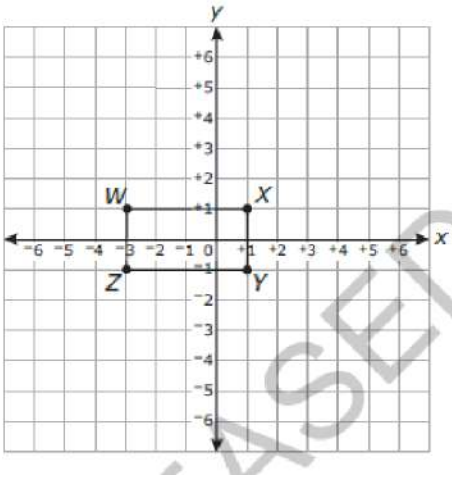
A (5, 8)

B (6, 7)

C (7, 6)

D (8, 5)

41 Rectangle *WXYZ* will be dilated by a scale factor of $\frac{1}{2}$, creating rectangle *W′X′Y′Z′*.



What will be the perimeter of rectangle *W′X′Y′Z′*?

A 4 units

B 6 units

C 12 units

D 24 units

Concept 2 - Rational and Irrational Numbers (8.NS.1, 8.NS.2, 8.EE.2)

Rational Numbers - Real numbers that can be represented as a _____

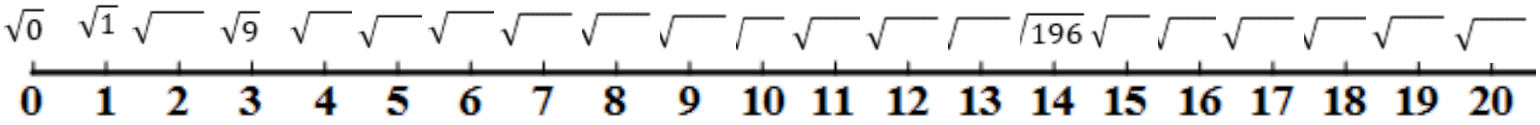
(often, they are expressed as _____ as well)

Irrational Numbers - Real numbers that cannot be represented as a _____

(at this level, they are usually _____ that cannot be simplified to rational numbers)

Square Root - A number that _____ times itself to equal another number (its _____)

Complete the number line:



Now, estimate to plot the following roots on the number line: $\sqrt{84}, \sqrt{200}, \sqrt{2}, \sqrt{300}$

Solving Equations Using Roots

Solve: $x^2 = 25$ (Hint: Think, what numberS can you square to equal 25?)

Solve: $x^3 = 8$ $x^3 = -8$

Why do equations with an exponent 2 have 2 solutions while equations with an exponent 3 have 1 solution?

Fractions and Exponents

To raise a fraction to an exponent, apply the exponent to the _____ and _____.

To take the root of a fraction, apply the root to the _____ and _____.

A) $(\frac{3}{5})^2$ = _____ B) Solve for x: $x^2 = \frac{9}{25}$ C) $\sqrt{\frac{100}{81}}$

Converting Repeating Decimals to Rational Numbers

Change $0.\overline{6}$ to a fraction/rational number.	$x = 0.\overline{6}$
Multiply to get the repeating part in front of the decimal.	$10x = 6.\overline{6}$
Subtract the two equations.	$-\quad x = 0.\overline{6}$
Divide and simplify to get the rational number.	$9x = 6$
	$x = \frac{6}{9} = \frac{2}{3}$

Concept 2 Released EOG Questions (8.NS.1, 8.NS.2, 8.EE.2)

7 What is the value of $0.\overline{36} \bullet \frac{11}{2}$?

8 What is the sum of all the integers between $\sqrt{19}$ and $\sqrt{77}$?

9 On a number line, let point *P* represent the largest integer value that is less than $\sqrt{407}$. Let point *Q* represent the largest integer value that is less than $-\sqrt{68}$. What is the distance between *P* and *Q*?

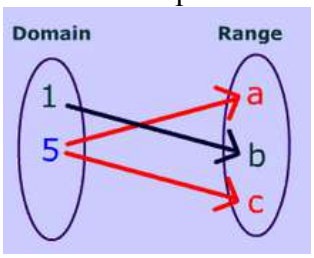
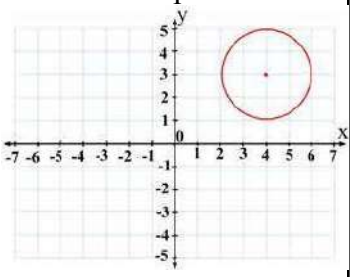
Concept 3 - Introduction to Functions (8.F.1, 8.F.2, 8.F.3, 8.F.5)

Functions vs. Relations

Relation - Collection of _____ with one value from two different _____

Function - Relation with a rule that determines every _____ to have one _____

The following examples are NOT functions. For each, complete the table.

	Example 1	Example 2	Example 3
		(0, 0) (1, 1) (4, 2) (9, 3) (1, -1) (4, -2) (9, -3)	
What inputs have more than one output?			
What outputs are produced by these inputs?			
How can you tell that these inputs have more than one output?			

Key Characteristics of Functions

Domain - _____

Range - _____

Rate of Change - _____

Y-Intercept - _____

X-Intercept - _____

How can you determine the rate of change, x-intercept, and y-intercept from function points or a table?

Rate of Change	X-Intercept	Y-Intercept

Positive/Negative Association

Positive Association - As x _____, y _____

Negative Association - As x _____, y _____

No Association - As x _____, y _____

Challenge: Name a real-world situation for positive association, negative association, and no association.

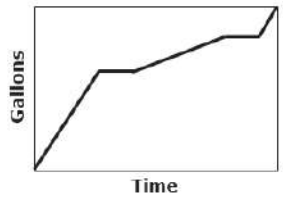
Concept 3 Released EOG Questions (8.F.1, 8.F.2, 8.F.3, 8.F.5)

23 Mr. Jones filled his swimming pool with water.

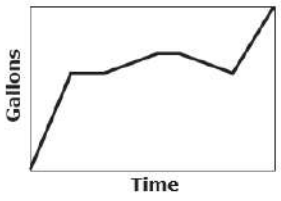
- Mr. Jones began filling the pool at a constant rate.
- He turned off the water for a while.
- He then turned the water back on at a slower constant rate.
- Mr. Jones turned off the water again for a while.
- He then turned the water back on at the first rate.

Which graph ***best*** represents Mr. Jones filling the pool?

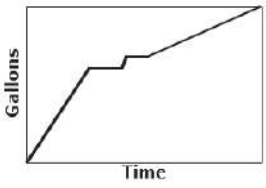
A



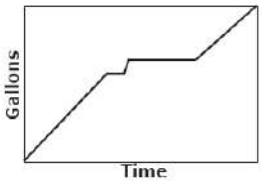
B



C



D



37 In which table is y a function of x?

A

x	y
$^{-}3$	6
2	5
3	2
2	3

B

x	y
$^{-}1$	0
5	2
7	3
5	4

C

x	y
2	$^{-}1$
3	0
4	$^{-}5$
5	7

D

x	y
0	6
$^{-}1$	3
2	4
$^{-}1$	5

38 Which function has a greater rate of change than the function that passes through the points given in the table below?

x	y
4	2
6	3
8	4
10	5
12	6

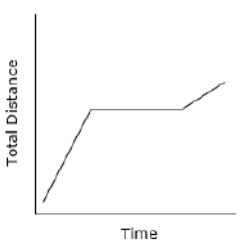
A $3x - 5y = 25$

C $y = 1 + \frac{1}{2}x$

D $y = -1 + \frac{1}{4}x$

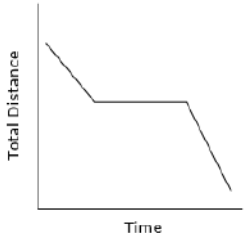
39. Larry started riding his bike at a rapid pace. He got tired and stopped to rest. When he started again, he was going at a slower rate. Which graph best shows Larry's trip?

A



B

C



D

40 Alice compared the graphs of two functions.

- The first function was $y = 3x + 4$.
- The second function fits the values in the table below.

x	*y*
2	17
5	32
8	47
11	62

What is the distance between the *y*-intercepts of the two functions?

A) 1 **B) 2** **C) 3** **D) 4**

47 Which scenario would ***most likely*** show a negative association between the variables?

A the height of a tree, *x*, and the amount of time it takes to climb to the top of the tree, *y*

B the number of people in the mall, *x*, and the number of cars in the parking lot, *y*

C miles traveled in a car, *x*, and the amount of gasoline used, *y*

D time spent reading a book, *x*, and the number of pages left to read, *y*

Concept 4 - Linear Functions (8.EE.5, 8.EE.6, 8.F.4, 8.F.5, 8.SP.1, 8.SP.2, 8.SP.3, 8.SP.4)

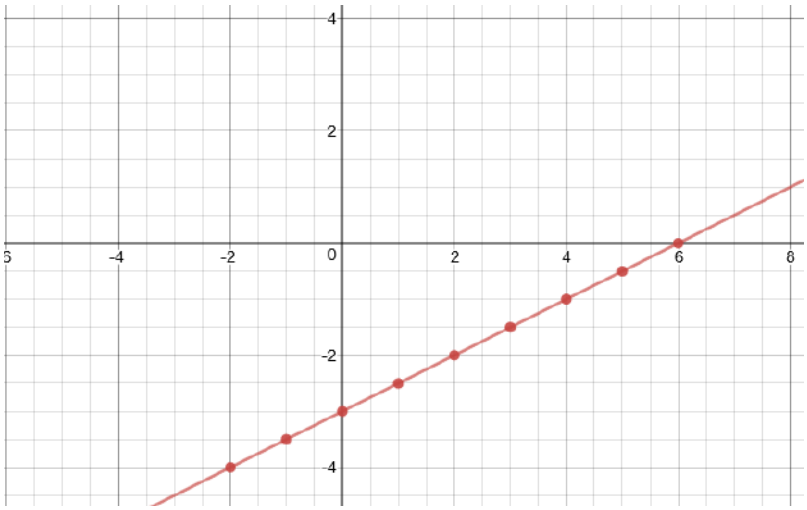
Equation of a Linear Function: $y = mx + b$ or $f(x) = mx + b$

m = _____ **b =** _____

(x, y) = _____

Finding/Comparing Slopes From a Graph, Equation, or Table:

Equation: y = ½ x - 3



x	y
−2	−4
−1	−3.5
0	−3
1	−2.5
2	−2
3	−1.5
4	−1
5	−0.5
6	0

Slope from Equation Slope on Graph (count rise over run) Slope from Points ($m = \frac{y_2 - y_1}{x_2 - x_1}$)

Real-World Situations

For real-world situations, the y-intercept represents ____.

The slope represents ____.

You try: For the following situations, what are the slope/rate of change and y-intercept? How do you know?

1. A car salesman makes a base rate of $25,000/year plus $3,000 for every car she sells.

y-intercept = ________ Slope = __________ How do you know? ________________________________

____

2. After two hours of a snowstorm, 1.5 inches have fallen. After 6 hours, 4.5 inches have fallen.

y-intercept = ________ Slope = __________ How do you know? ________________________________

____

Special Slopes

Slope of 0 = ______________________________ Undefined Slope = ________________________________

Scatterplots, Association, and Linear Equations

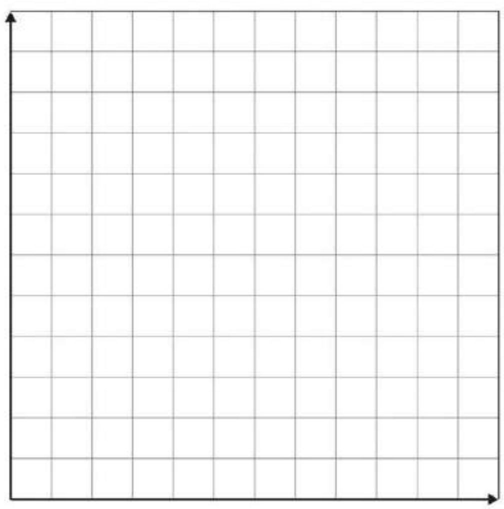
Data for 10 students' Math and Science scores are provided in the chart.

Student	A	B	C	D	E	F	G	H	I	J
Math	64	50	85	34	56	24	72	63	42	93
Science	68	70	83	33	60	27	74	63	40	96

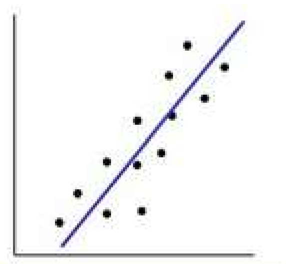
Plot the data in a scatterplot. Think about the scale that you will need to show all the points.

If the points go up or down in a linear pattern, there is a association.

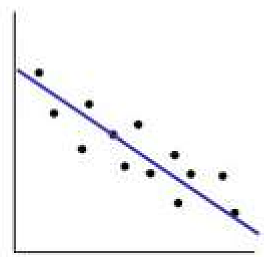
Science



Math



Positive Association



Negative Association

What association do the math and science scores show?

Now, use the calculator to use linear regression to write the equation of the best fit line.

Steps: STAT-EDIT, Type x values in L1 and y values in L2, STAT-CALC-LinReg, Calculate

Use the equation to answer the questions:

1. If a student scored a 90 in Math, what would be the expected score in Science?

2. If a student scored an 80 in Science, what would be the expected score in Math?

Higher-Level Questions for Discourse

1. What is the relationship between linear equations and their tables?

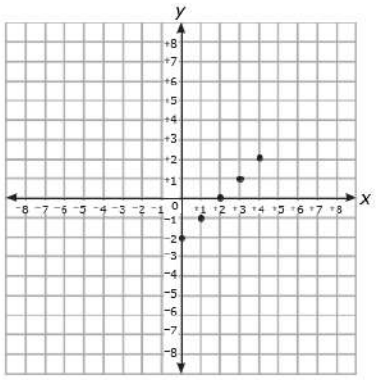
2. What is the x-value for EVERY y-intercept? Why?

3. What is the y-value for EVERY x-intercept? Why?

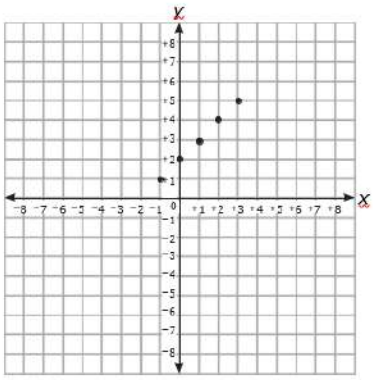
Concept 4 Released EOG Questions (8.EE.5, 8.EE.6, 8.F.4, 8.F.5, 8.SP.1, 8.SP.2, 8.SP.3, 8.SP.4)

2 In which graph do all of the plotted points lie on the line $y = x + 2$?

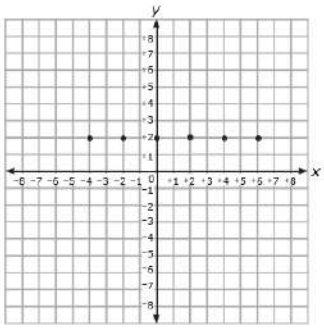
A



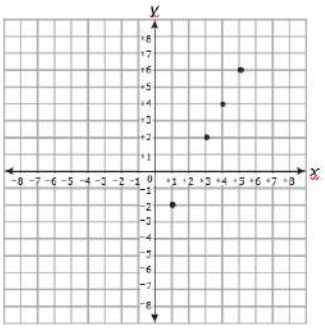
B



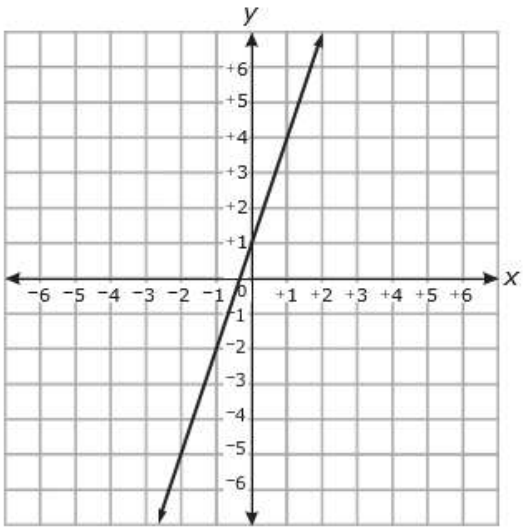
C



D



3 Which choice is a correct equation for the line graphed below?



A $y = 3x + 1$

B $y = 2x + 1$

C $y = \frac{1}{2}x + 1$

D $y = \frac{1}{3}x + 1$

4 Which function is nonlinear?

A $y = \frac{3x + 1}{2}$

B $y = -x$

C $y = 2x(x - 4)$

D $y = \frac{1}{2}x - 7$

5 In which choice do all the points lie on the same line?

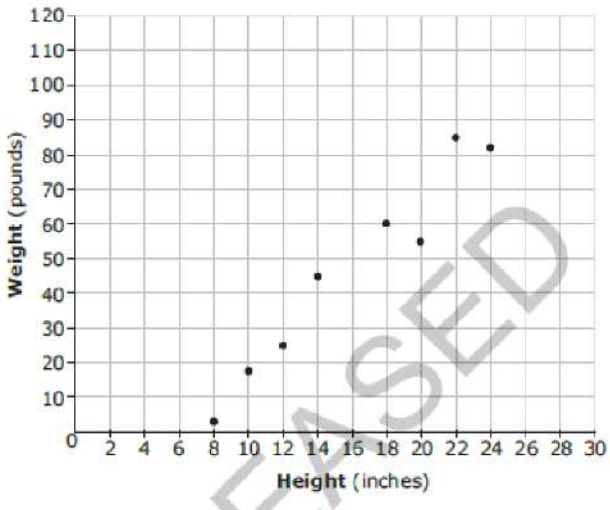
A $(0, -2), (1, -1), (2, 2), (3, 7)$

B $(0, 0), (1, 1), (2, 4), (3, 9)$

C $(0, 0), (1, 1), (2, 8), (3, 27)$

D $(0, 0), (1, 2), (2, 4), (3, 6)$

6 Sharon made a scatterplot comparing the shoulder heights of dogs to their weights.



Sharon's dog has a shoulder height of 28 inches. Using a linear model, which is

A) 85 pounds **B) 90 pounds** **C) 105 pounds** **D) 120 pounds**

14 In the table below, y is a linear function of x.

x	y
3	5
5	$^-3$
7	$^-11$

What is the value of v when $x = 0$?

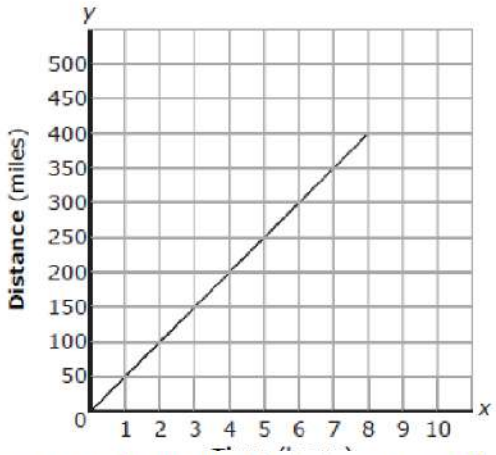
15 Beginning in 2000, a sports team increased its ticket price by a constant amount each year until 2010.

- A ticket cost \$48 in 2005.
- A ticket cost \$55.50 in 2008.

How much did a ticket cost in 2000?

Express the answer as dollars.cents.

17 On Monday, Mr. James made an eight-hour trip to his mother's house in his car. The graph below shows the distance he had traveled at different times.



A $d = 45t$

B $d = 50t$

C $d = 55t$

D $d = 60t$

21 Limousine Company P and Company R both charge a rental fee plus an additional charge per hour.

- The equation $y = 50 + 30x$ models the total cost (in dollars), y, of renting a limousine from Company P for x hours.
- The table below shows the cost to rent a limousine from Company R for different lengths of time.

Company R

Time (hours)	1	2	3	4	5
Total Cost	\$100	\$125	\$150	\$175	\$200

Which statement accurately compares the per hour charges of the two companies?

A Company P charges \$5 less per hour than Company R.

B Company P charges \$5 more per hour than Company R.

C Company P charges \$25 less per hour than Company R.

D Company P charges \$25 more per hour than Company R.

22 In which function table do all of the points (x, y) lie on the line that has a slope of 3 and a y-intercept of 2?

A

x	y
-1	-1
2	8
5	17
8	26

B

x	y
-1	-1
2	7
5	17
8	26

C

x	y
-1	-1
2	8
5	18
8	26

D

x	y
-1	-1
2	8
5	17
8	25

29 The table below displays the number of DVDs sold and rented at a store for 5 weeks.

Week	DVDs Sold	DVDs Rented
1	25	50
2	45	79
3	40	70
4	22	48
5	5	28

Which describes the association between the number of DVDs sold and the number of DVDs rented?

A no association

B weak association

C negative association

D positive association

31 The table shows the air temperatures at different elevations.

Elevation (feet)	Temperature (°F)
0	75°
100	70°
200	67°
300	64°
400	59°
500	55°
600	50°

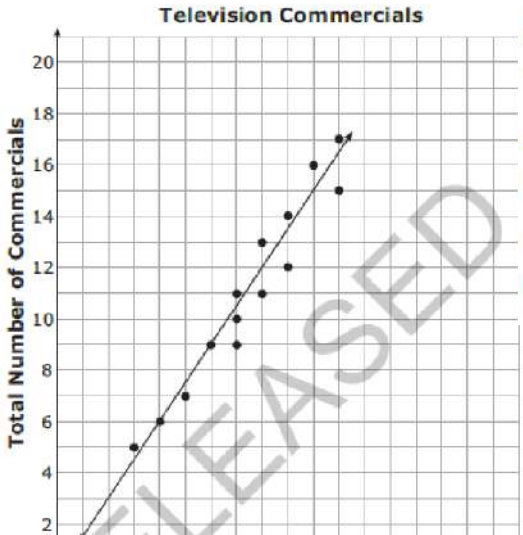
A $y = \frac{-1}{25}x + 75$

B $y = \frac{1}{25}x - 75$

C $y = \frac{1}{25}x + 75$

D $y = \frac{-1}{25}x - 75$

32 Mary collected data each day on how many commercials she saw and how long she watched TV. She displayed her data in a scatterplot.



According to the trend line shown in the scatterplot, ***about*** how many commercials will Mary see if she watches TV for $1\frac{1}{2}$ hours?

A 19

B 27

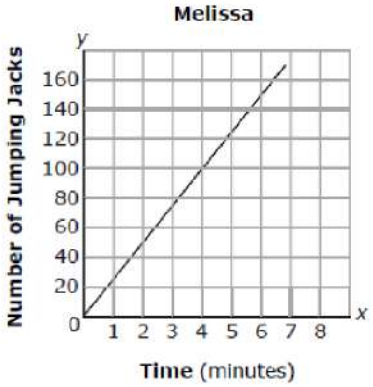
C 39

D 90

33 Alicia and Melissa did jumping jacks. The table below shows the number of jumping jacks that Alicia had done in different amounts of time.

Alicia	**Time** (minutes)	1	2	3	4	5	6	7	8
	Jumping Jacks	30	60	90	120	150	180	210	240

The graph below shows the number of jumping jacks Melissa had done in different amounts of time.



Which choice ***best*** describes the difference between the rates at which the girls did jumping jacks?

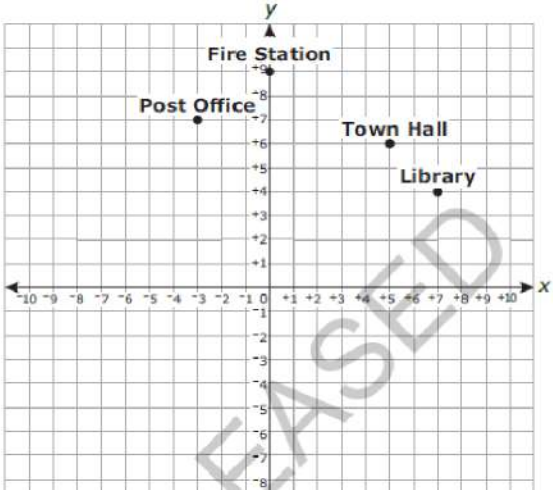
A Melissa did 6 more jumping jacks per minute than Alicia.

B Alicia did 6 more jumping jacks per minute than Melissa.

C Melissa did 5 more jumping jacks per minute than Alicia.

D Alicia did 5 more jumping jacks per minute than Melissa.

34 A town's buildings were graphed on a coordinate grid.



Which equation would represent a line drawn to connect the Town Hall and Post Office?

A $y = \frac{-2}{3}x + \frac{28}{3}$

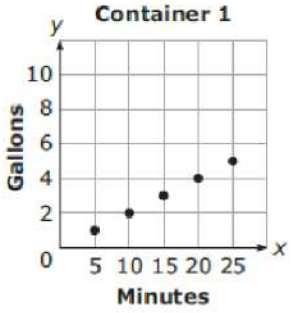
B $y = \frac{-1}{8}x + \frac{53}{8}$

C $y = \frac{3}{5}x + 9$

D $y = \frac{1}{8}x + \frac{59}{3}$

35 Rain is flowing into two containers at different rates. The figure below shows the volume of water in each container at different times.

Container 1



Container 2

Minutes	Gallons
5	2
10	4
15	6
20	8
25	10

What is the difference in the rate of change between the two containers?

A $\frac{1}{5}$ gallon per minute

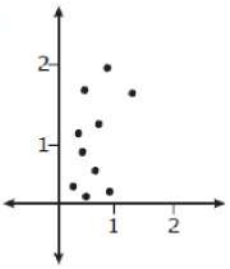
B $\frac{3}{5}$ gallon per minute

C $\frac{5}{2}$ gallons per minute

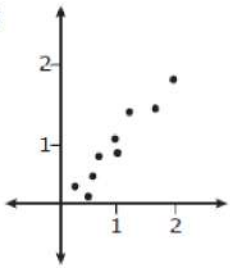
D $\frac{15}{2}$ gallons per minute

48 James is fitting the linear equation $y = \frac{1}{2}x$ to a data set. Which scatterplot shows the data set that the linear equation would fit ***best***?

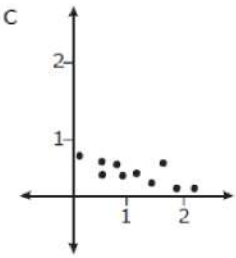
A



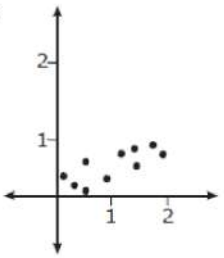
B



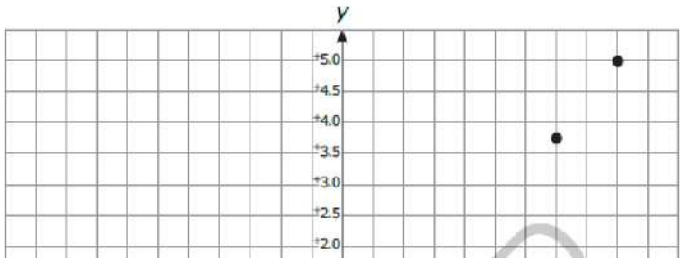
C



D



50 Which equation ***best*** fits the data shown in the scatterplot below?



A $y = \frac{1}{4}x - 1$

B $y = \frac{1}{2}x - \frac{1}{2}$

C $y = \frac{3}{4}x - 2$

D $y = x - 3$

Concept 5 - Solving Linear Equations and Systems (8.EE.7 (a,b), 8.EE.8 (a,b,c))

Solving Equations

The goal of solving equations is to _____.

One way to do this is to _____ the variable.

Possible types of equations:

Expressions with parentheses - _____

Variables on Both Sides of the Equal Sign - _____ or _____ the variable term to isolate on one side

Variables on the Same Side of the Equal Sign - _____

Discovery Activity - Solving Equations

Find the number that goes in each box.

1) ☐ + 2 = 8 2) 2 • ☐ + 2 = 8 ☐ 3) 9 ☐ - = 8

4) ☐ 4(+ 3) = 8

How did you figure out which number to put in each box?

Now, solve the following equations.

1) x + 2 = 8 2) 2x + 2 = 8 3) 9 - x = 8 4) 4(x + 3) = 8

How did you solve each equation? How did that compare to filling in the boxes?

Equations with Variables on Both Sides

Solve each equation. (Don't forget to cancel a variable on both sides.)

A) 2x + 6 = x + 9 B) x + 6 = x + 2 C) 2x + 6 = 2(x + 3)

What do you notice about the last step when:

There is a solution? _____

There is no solution? _____

There are many solutions? _____

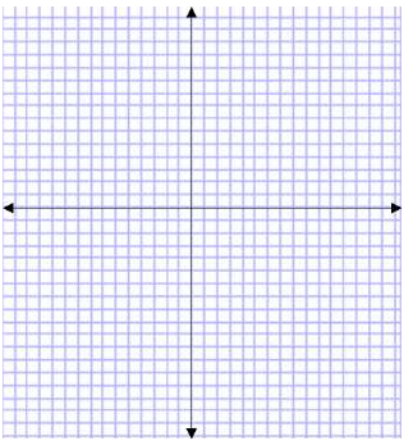
1) $-2x + 1 = -4x + 9$ 2) $4x + 1 = 5x - 2$ 3) $-4x = -x + 3$

Now, practice solving a couple more equations.

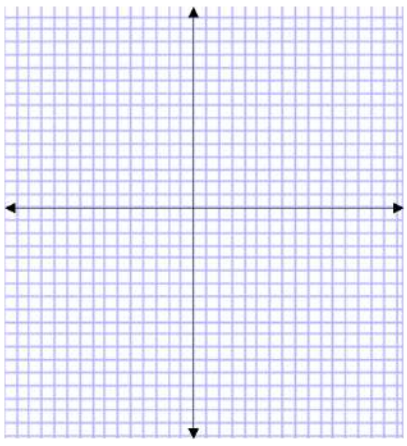
Solving Systems by Graphing

Graph the following systems of equations:

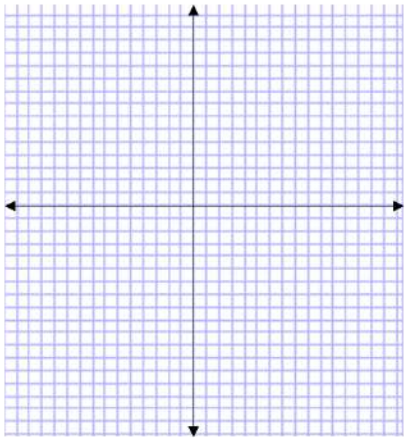
A) y = 2x + 6
y = x + 4



B) y = x + 6
y = x + 2



C) y = 2x + 6
y = 2(x + 3)



Where do the lines in each system intersect? What does that mean for each system?

<u>System A</u> <u>System B</u> <u>System C</u>

Now, for System A, substitute the solution point for X and Y in each equation. What do you notice?

Solving Systems by Substitution

1. For the equation 2x + y = 15, let's say you know that x = 6. Solve for y and compare your answer with a classmate. What do you notice?

2. For the equation 2x + y = 15, let's say you know that x = 2y. Solve for y and compare your answer with a classmate. What do you notice?

More Practice

1. $y = -2$
   $4x - 3y = 18$

2) $2x - 3y = -1$
   $y = x - 1$

3. $-5x + y = -2$
   $-3x + 6y = -12$

Higher-Level Questions for Discourse

1. What does it mean to solve an equation? What about a system of equations?

2. How do the solutions to systems of equations by graphing and substitution relate?

Concept 5 Released EOG Questions (8.EE.7 (a,b), 8.EE.8 (a,b,c))

11 When 8 is added to the number that is produced by doubling the number x, the result is equal to 8 times the number that is 5 less than x. What is the value of x?

13 Kyle is a salesman. His monthly earnings include a fixed monthly salary and a commission that is a fixed percentage of his total sales for the month.

- Kyle's total sales for the month of January were \$15,000, and his total earnings for that month were \$2,550.
- Kyle's total sales for the month of February were \$25,000, and his total earnings for that month were \$3,050.

What is Kyle's fixed monthly salary in dollars?

18 What value of x satisfies the equation $\frac{-4x - 2}{3} = -6$?

A -16

B -12

C 0

D 4

19 A company charges $211.25 for 5 trees and 15 shrubs. The company charges $15.25 more for a tree than a shrub. How much does each shrub cost?

A $6.75

B $7.75

C $19.25

D $22.00

25 Kim made soup which contains 75 total ounces of beans.

- The soup has two kinds of beans, black and red.
- There are 4 times as many ounces of black beans as red beans.

How many ounces of red beans are in the soup?

A 5

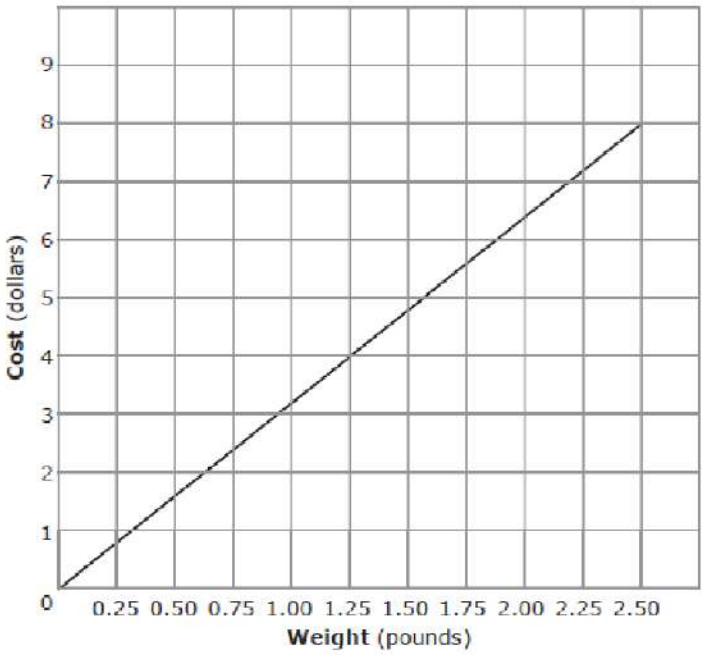
B 12

C 15

D 19

20 Two stores sell cherries at different prices per pound.

- Store P sells 3.5 pounds of cherries for $13.30.
- The graph below shows the cost to purchase different weights of cherries at Store Q.



Phillip needs to purchase 10 pounds of cherries. Which statement below is true?

A Phillip will spend $8.00 less on cherries at Store P than at Store Q.

B Phillip will spend $8.00 more on cherries at Store P than at Store Q.

C Phillip will spend $6.00 less on cherries at Store P than at Store Q.

D Phillip will spend $6.00 more on cherries at Store P than at Store Q.

36 A system of equations is shown below.

$$2x + 4y = 0$$
$$y = \frac{1}{2}x - 3$$

What is the x-value in the solution to the system of equations?

A 3

B ¯1.5

C 1.5

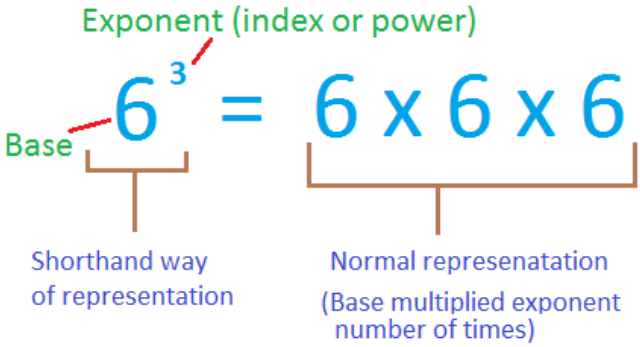
D 3

Concept 6 - Exponents and Scientific Notation (8.EE.1, 8.EE.3, 8.EE.4)

In your own words, what is a:

Base - _____

Exponent - _____



Multiplying and Dividing Exponents

Write $x^5 \cdot x^3$ in expanded form. How many x's did you write? _____

Now, write $\frac{x^5}{x^3}$ in expanded form. Then, divide out x's on the top and bottom. How many x's are left? _____

Multiply terms with same base, _____ the exponents. Divide terms with same base, _____ the exponents.

Other Exponent Rules

Power of a Power Rule - $(x^a)^b = x^{ab}$ Example: $(x^5)^3$ = _____

Negative Exponents - $x^{-a} = \frac{1}{x^a}$ Make exponent _____, move to _____ of fraction.

Exponent of 0 - Anything to the 0 power = _____. Exponent of 1 - Anything to the 1 power = _____.

Scientific Notation

Calculate: 10 • 10 = _____ 10 • 10 • 10 = _____ 10 • 10 • 10 • 10 = _____

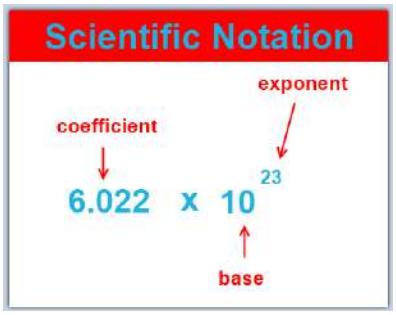
10^2 = _____ 10^3 = _____ 10^4 = _____ 10^5 = _____ 10^6 = _____

10^{-1} = _____ 10^{-2} = _____ 10^{-3} = _____ 10^{-4} = _____ 10^{-5} = _____ 10^{-6} = _____

Now, write those answers as decimals, not fractions:

10^{-1} = _____ 10^{-2} = _____ 10^{-3} = _____ 10^{-4} = _____ 10^{-5} = _____ 10^{-6} = _____

We can write really large or really small numbers using these exponents and scientific notation.



The coefficient of the scientific notation is always between ____ and ____, the base is always ____, and the exponent tells the number's place value.

For a positive exponent, the decimal moves _____.

For a negative exponent, the decimal moves _____.

Concept 6 Released EOG Questions (8.EE.1, 8.EE.3, 8.EE.4)

1 The area of the surface of the Atlantic Ocean is approximately 31,830,000 square miles. How is this area written in scientific notation?

A 3.183×10^4

B 3.183×10^5

C 3.183×10^6

D 3.183×10^7

10 What is the value of $\frac{4^3 \bullet 4^{-1} \bullet 5^{-2}}{4^4 \bullet 5^{-3} \bullet 5^0}$?

16 Suppose that a scientist estimates that every square mile of the ocean contains an average of 4.6×10^4 pieces of trash. The area of the Earth's surface that is covered by oceans is approximately 1.2×10^8 square miles. Using the estimate, how many pieces of trash are in the Earth's oceans?

A 5.5×10^{12}

B 1.2×10^8

Concept 7 - Pythagorean Theorem (8.G.6, 8.G.7, 8.G.8)

Right Triangle - A triangle with a _____ angle.

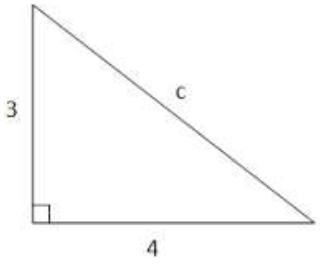
Leg - _____

Hypotenuse - _____

The lengths of sides of a right triangle are related by the _____.

Pythagorean Theorem - $Leg^2 + Leg^2 = Hypotenuse^2$

Practice: Find the **area** and **perimeter** of each triangle (to the nearest tenth if necessary).

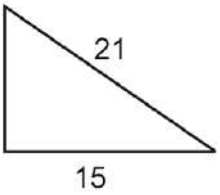
1. 

x = _____

A = _____

P = _____

2. x = _____



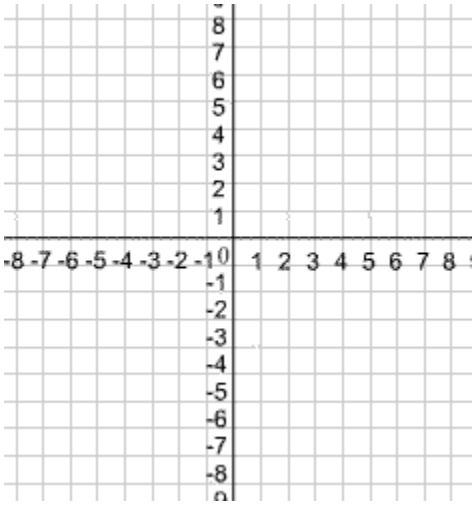
A = _____

P = _____

Pythagorean Theorem and Distance Formula

On the coordinate plane to the right, draw and label points A(-3, 6), B(2, 6), and C(2, 1).

Connect the points. What shape did you make?



How long is AB? _____ How long is BC? _____

How can you find the length of AC?

What is the length? _____

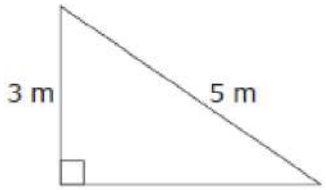
Higher-Level Questions for Discourse

1. Many students learn $a^2 + b^2 = c^2$ for the Pythagorean Theorem. Does it matter which sides are labeled as a, b, and c? Why or why not?

2. Can the Pythagorean Theorem be used to find the distance between any two points on the coordinate plane? Why or why not?

Concept 7 Released EOG Questions (8.G.6, 8.G.7, 8.G.8)

30 What is the area of the triangle shown below?



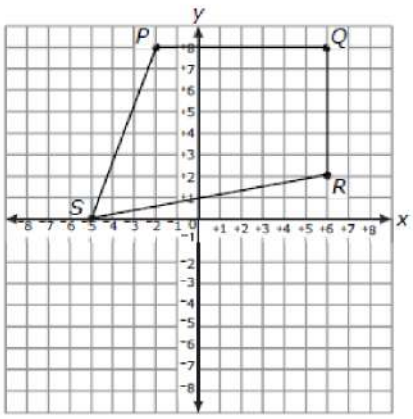
A 4 square meters

B 6 square meters

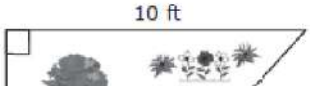
C 12 square meters

D 15 square meters

27 Quadrilateral *PQRS* is graphed in the coordinate plane.



43 Molly wants to put a fence around an area. The fence will follow the diagram of the triangle shown below.



To the nearest tenth, what is the perimeter of quadrilateral *PQRS*?

A 33.0 units

B 33.7 units

C 37.6 units

D 48.0 units

44 The points (¯3, ¯1) and (¯3, 5) are adjacent vertices of a rectangle. Two of the sides of the rectangle have a length of 8 units. What is the length of a diagonal of the rectangle?

A 9 units

B 10 units

C 12 units

D 14 units

Concept 8 - Geometry - Angles and Volume (8.G.5, 8.G.9)

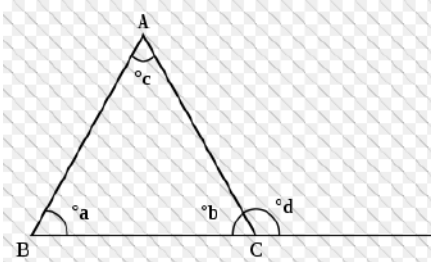
Triangles

• All triangles have 3 _____ and 3 _____. Scalene Triangles have _____ equal angles and sides, Isosceles Triangles have _____ equal angles & sides, & Equilateral Triangles have ____ equal angles & sides.

• All the angles in a triangle add to _____. To find missing angles or variables, set an equation = _____.

• An exterior angle of a triangle is an angle that forms a _____ with the interior angle of a triangle.

Discovery:



1. In the triangle above, if <b = 50^0, what is <d? _____

2. In the triangle above, if <a = 37^0 and <c = 63^0, find <b. _____

Then, find <d. _____

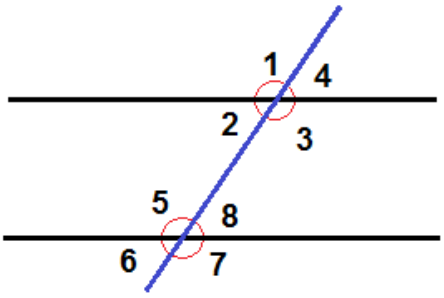
What relationship do you notice between <a, <c, and <d? _____

So exterior angles are equal to the _____

Parallel Lines and Angles

If two lines are parallel:

Angle Pair	Equal or Supplementary	Example from Picture on Right
Corresponding Angles		
Alternate Interior Angles		
Alternate Exterior Angles		
Consecutive or Same-Side Interior Angles		



In the picture to the right:

1. If <1 = 143^0, give the measure of all other angles.

2. If <6 = 3x + 19 and <4 = 5x - 5, what is the measure of <3? How do you know?

Area and Volume

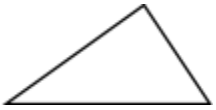
When calculating measurements, the _____ and _____ always form a right angle.

Area Formulas:

Rectangle = _____

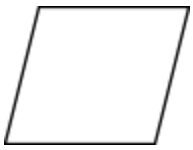
Parallelogram = _____

Triangle = _____

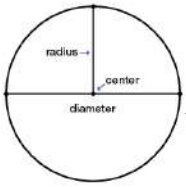


Trapezoid = _____

Rhombus = _____



Circle = _____



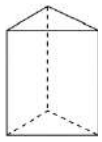
All sides equal

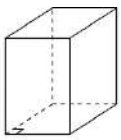
Perimeter/Circumference:

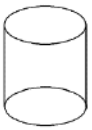
Perimeter of Any Polygon = _____ Circumference of a Circle = _____

Volume:

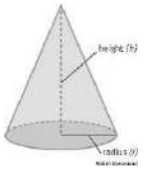
Volume of a Right Prism or Cylinder = _____

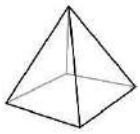

Right triangular prism


Right rectangular prism

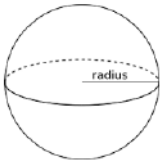


Volume of a Cone or Pyramid = _____





Volume of a Sphere = _____



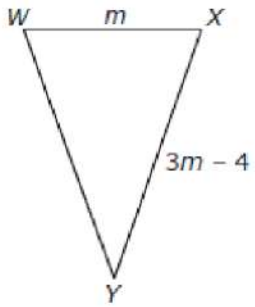
Higher-Level Questions for Discourse

1. Why is volume equal to the area of the base times height?

2. What is the measure of each angle in an equilateral triangle? How do you know?

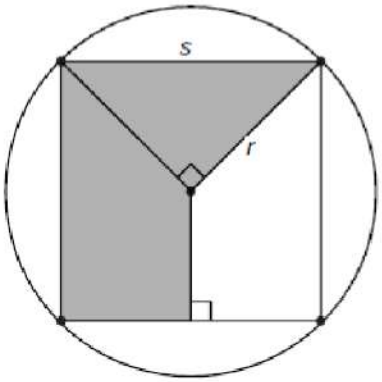
Concept 8 Released EOG Questions (8.G.5, 8.G.9)

12 In $\triangle WXY$, $\overline{WY}$ is congruent to $\overline{XY}$. The perimeter of $\triangle WXY$ is 76 inches.



How many inches long is $\overline{WX}$?

26 The figure below shows a square inscribed in a circle. The area of the shaded region is 2.5 square units.



What is the ***approximate*** area of the circle?

A 3.1 square units

B 4.7 square units

C 6.3 square units

D 7.9 square units

28 A cylinder is 20 inches long and has a diameter of 10 inches. What is the ***approximate*** volume of the cylinder?

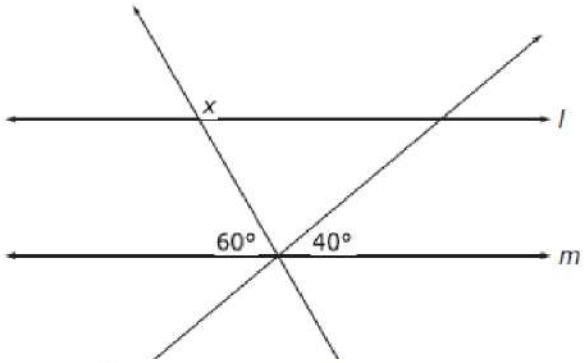
A 200 cubic inches

B 630 cubic inches

C 1,570 cubic inches

D 6,280 cubic inches

42 Lines *l* and *m* are parallel to one another and cut by transversals *s* and *t*.



What is the value of *x*?

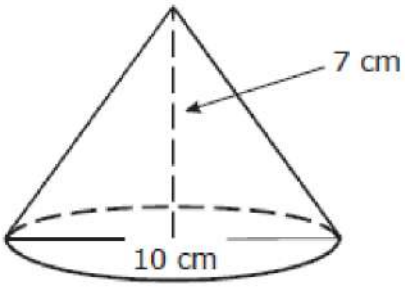
A 40°

B 80°

C 120°

D 140°

45 What is the ***approximate*** volume of the cone below?



A 70 cm^3

B 183 cm^3

C 549 cm^3

D 733 cm^3

46 The measures of the angles of a triangle are 50°, 35°, and 95°. What is the measure of the largest exterior angle of the triangle?

A 85°