

NAME Key

DATE \_\_\_\_\_

MATH 8 PERIOD \_\_\_\_\_

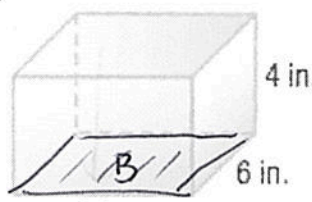
HW # \_\_\_\_\_ REVIEW FOR FINAL #3

SHOW ALL WORK AND STEPS!

SHOW ALL STEPS

1) Find the volume of each figure. Round answers to the nearest TENTH if necessary.

a)

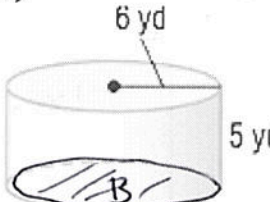


4 in.  
6 in.  
6 in.

$V = B \cdot h$   
 $V = \boxed{6 \cdot 6 \cdot 4}$

$V = 144 \text{ in}^3$

b)

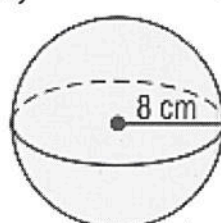


6 yd  
5 yd

$V = B \cdot h$   
 $V = \boxed{\pi r^2 h}$

$V \approx 565.5 \text{ yd}^3$

c)



8 cm

$V = \left(\frac{4}{3}\right) \pi r^3$

$V \approx 2,144.7 \text{ cm}^3$

2) Find the surface area of the figure in #1a.

$SA = 2lw + 2lh + 2hw$

$SA = 168 \text{ in}^2$

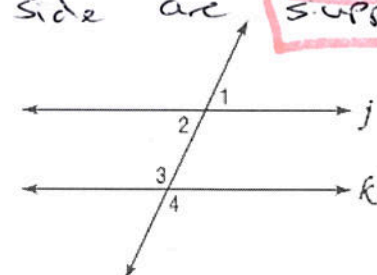
3) a) What is the product of  $-3x^2y$  and  $(5xy^2 + xy^3)$ ?  
Distribute  $\nabla$   
 $-15x^3y^3 - 3x^3y^2$

b) What is the sum of  $6xy$ ,  $3xy$  and  $-10xy$ ?  
Add  
 $-1xy$

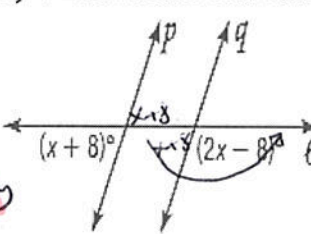
4) Using the diagram below, determine the relationship between:

a)  $\angle 1$  &  $\angle 2$  Vertical  $\angle$ s are  $\sim$

b)  $\angle 1$  &  $\angle 4$  Exterior  $\angle$ s on same side are supplementary



5) Find  $x$  and the measure of each angle.



$(x+8) + (2x-8) = 180$

$x = 60^\circ$

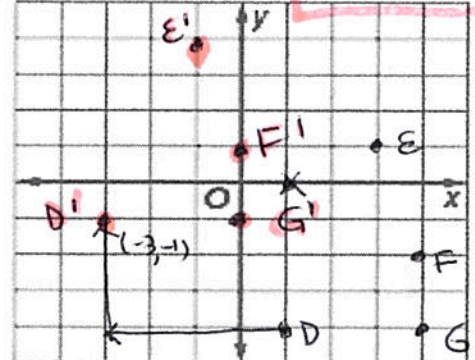
$\{68^\circ, 112^\circ\}$

6) a) Graph quadrilateral DEFG with vertices  $D(1, -4)$ ,  $E(3, 1)$ ,  $F(4, -2)$ , and  $G(4, -4)$  and its image under the translation four units left and three units up.

b) State the ordered pairs for:

$T = -4, 3$   
add -4 to x  
add 3 to y

$D'(-3, -1)$   $E'(-1, 4)$   $F'(0, 1)$   $G'(0, -1)$



OVER

Substitution Method

7) Solve algebraically and check:

$$4x - 2y = -6 \quad y = -3x + 18$$

$$4x - 2(-3x + 18) = -6$$

$$\downarrow$$

$$x = 3 \quad y = 9$$

Check

$$4(3) - 2(9) = -6 \quad 9 = -3(3) + 18$$

$$\downarrow \qquad \qquad \qquad \downarrow$$

$$-6 = -6 \quad \checkmark \qquad 9 = 9 \quad \checkmark$$

$$\therefore (x, y) = (3, 9)$$

8) Solve algebraically and check:

$$5x + 4y = 10 \quad -6x - 4y = -16$$

$$\begin{array}{r} 5x + 4y = 10 \\ + -6x - 4y = -16 \\ \hline \end{array}$$

$$-1x = -6$$

$$\downarrow$$

$$x = 6$$

$$5(6) + 4y = 10$$

$$\downarrow$$

$$y = -5$$

Check

$$5(6) + 4(-5) = 10 \quad -6(6) - 4(-5) = -16$$

$$\downarrow \qquad \qquad \qquad \downarrow$$

$$10 = 10 \quad \checkmark \qquad -16 = -16 \quad \checkmark$$

$$\therefore (x, y) = (6, -5)$$

9) Answer each question using the scatter plot to the right.

a) Describe in a complete sentence the type of relationship shown.

As the number of coffee consumed increases, the number of hours of sleep decreases (moderately strong negative linear correlation)

b) Write an equation in slope intercept form for the line of best fit.

SHOW YOUR WORK!

Use (2, 7) and (9, 2)

$$m = ? \longrightarrow \frac{-5}{7} \approx -\frac{.71}{1}$$

$$y = mx + b$$

$$7 = -.71(2) + b$$

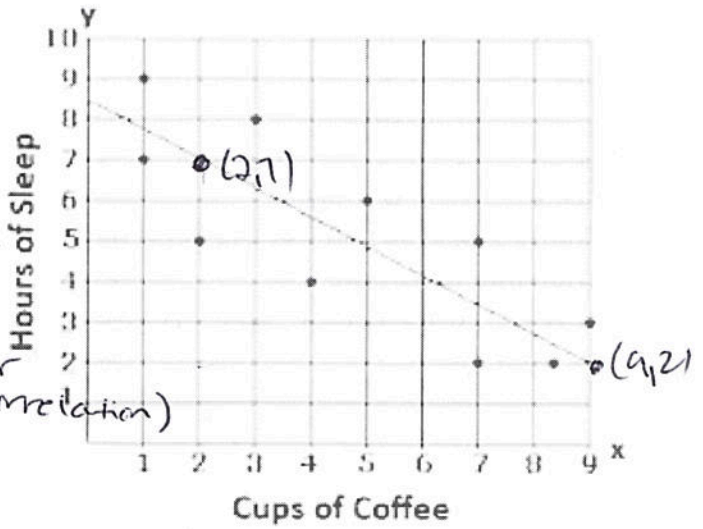
$$\downarrow$$

$$8.42 = b$$

EQUATION:  $y \approx -.71x + 8.42$

Answers will be approximately close to this...

Hours of Sleep per Cups of Coffee



c) Describe in a sentence the meaning of the:

Slope -  $-\frac{.71}{1}$  As the coffee consumed increases by 1 cup, one can expect to get  $\approx .71$  hour of sleep less.

y intercept - (0, 8.42) A person who doesn't drink coffee can be said to get  $\approx 8.42$  hours of sleep a night.

Substitution Method