Name Key

Math 7 Honors

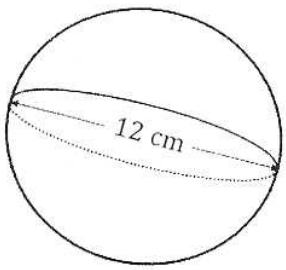
June 8

Final Exam Review #2

***Final Exam** is June 13 & June 14*

1. A Christmas snow globe uses the dimensions of the sphere shown below. Determine the volume of the sphere in terms of π.

$Volume = \frac{4}{3}\pi r^3$



A 288π cm³

B 216π cm³

C 48π cm³

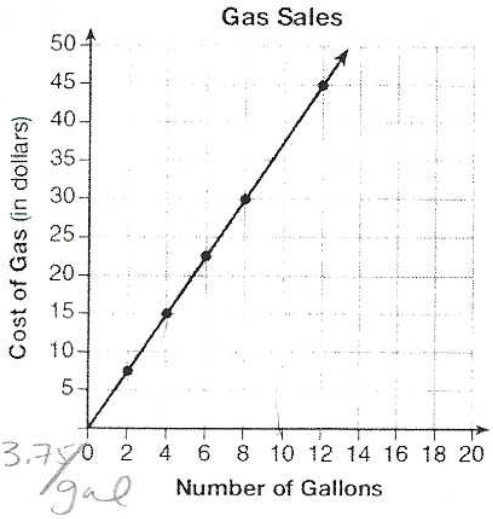
D $2{,}304\pi$ cm³

$V = \frac{4}{3}\pi (6)^3$

$V = \frac{4}{3}\pi (216)$

$V = 288\pi$

2. The graph below was created by an employee at a gas station.



$\frac{15}{4} = 3.75$ /gal

Which statement can be justified by using the graph?

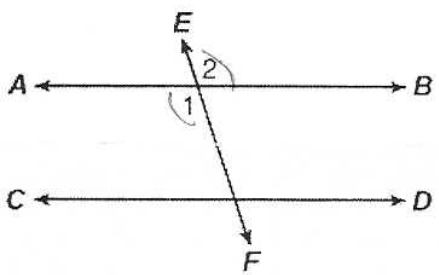
A If 10 gallons of gas was purchased, $35 was paid.

B For every gallon of gas purchased, $3.75 was paid.

C For every 2 gallons of gas purchased, $5.00 was paid.

D If zero gallons of gas were purchased, zero miles were driven.

3. In the diagram below, lines AB and CD are parallel, and line EF is a transversal



Which angle relationship best describes ∠1 & ∠2?

A Supplementary Angles

B Vertical Angles

C Corresponding Angles

D Alternate Interior Angles

4. The size of the new super cone at Friendly's is shown below. Determine the volume of the cone *to the nearest tenth.*

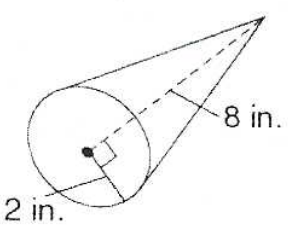
$Volume = \frac{1}{3}\pi r^2 h$

$= \frac{1}{3}\pi (2)^2 (8)$

$= \frac{1}{3}\pi (4)(8)$

$= \frac{1}{3}\pi (32)$

$= 33.5 \text{ in}^3$



A 64.0 in³

B 100.5 in³

C 50.3 in³

D 33.5 in³

5. Sadie graphs a linear equation that passes through the points (6, 20) and (8, 14). Determine the equation of her line. *Show your work.*

formula

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$= \frac{20 - 14}{6 - 8}$

$m = \frac{6}{-2} = -3$

or table

x	y
6	20
8	14

Δx +2, Δy -6

$m = \frac{\Delta y}{\Delta x} = \frac{-6}{2}$

$m = -3$

x, y

(6, 20)

$y = mx + b$

$20 = -3(6) + b$

$20 = -18 + b$

$+18 \quad +18$

$38 = b$

Equation $y = -3x + 38$

6. Solve for y, and then graph the equation.

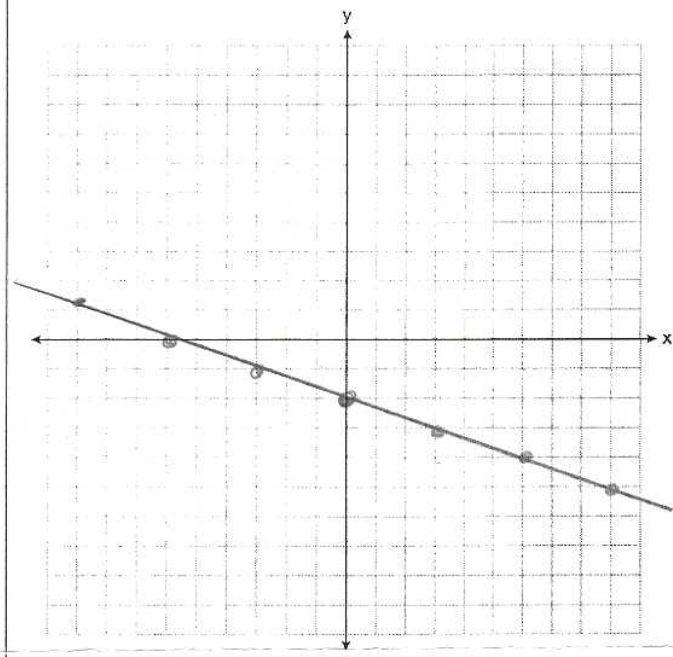
$2x - 3y = 3x + 6$

$-2x \quad -2x$

$\frac{-3y}{-3} = \frac{x + 6}{-3}$

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

$m = -\frac{1}{3} \quad b = (0, -2)$



7. A statistics class surveyed some students during one lunch period to obtain opinions about television programming preferences. The results of the survey are summarized in the table below.

Programming Preferences

	Comedy	Drama
Male	70	35
Female	48	42

70
35
105

Based on the sample, predict how many of the school's 351 males would prefer comedy. *Show your work.*

$\frac{70}{105} = \frac{x}{351}$

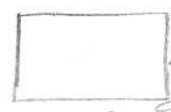
$\frac{24570}{105} = \frac{105x}{105}$

$x = 234$ males

8. A landscaper is creating a rectangular flower bed such that the width is three less than twice the length. The perimeter of the flower bed is 36 feet. Write and solve an equation to determine the width of the flower bed. *Show your work.*

length = 7 ft

width = 11 ft



$P = 2l + 2w$

$36 = 2(x) + 2(2x - 3)$

$36 = 2x + 4x - 6$

$36 = 6x - 4$

$+6 \quad +6$

$\frac{42}{6} = \frac{6x}{6}$

$7 = x$