**Name: Period: Job 10 Arithmetic Sequences**

**Part 1: Textbook**

Textbook Lesson 3-4 Pages 116-117: 17, 19, 25, 27, 43, 47

**Part 2: Algebra Regents Questions –**



**1.** Solve for $y$ and graph:$ -x-2y=8$

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

Which statement can be justified by using the graph?

 (1) If 10 gallons of gas was purchased, $35 was paid.

 (2) For every gallon of gas purchased, $3.75 was paid.

 (3) For every 2 gallons of gas purchased, $5.00 was paid.

 (4) If zero gallons of gas were purchased, zero miles were driven.

**3.** If $A=3x^{2}+5x-6$ and $B=-2x^{2}-6x+7$, then $A-B$ equals

 (1) $-5x^{2}-11x+13$ (3) $-5x^{2}-x+1$

 (2) $5x^{2}+11x-13$ (4) $5x^{2}-x+1$

**4.** The formula for the volume of a cone is $V=\frac{1}{3}πr^{2}h$. The radius $r$ of the cone may be expressed as

 (1) $\sqrt{\frac{3V}{πh}}$ (3) $3\sqrt{\frac{V}{πh}}$

 (2) $\sqrt{\frac{V}{3πh}}$ (4) $\frac{1}{3}\sqrt{\frac{V}{πh}}$

**5.** Solve the inequality below to determine and state the smallest possible value for *x* in the solution set.

$$3\left(x+3\right)\leq 5x-3$$



**6.** A function is shown in the table below.

|  |  |
| --- | --- |
| x | f(x) |
| –4 | 2 |
| –1 | –4 |
| 0 | –2 |
| 3 | 16 |

If included in the table, which ordered pair, $(-4,1)$ or $(1,-4)$, would result in a relation that is no longer a function? Explain your answer.

7. If $f\left(x\right)=\frac{\sqrt{2x+3}}{6x-5}$, then $f\left(\frac{1}{2}\right)= $

 (1) $1$ (3) $-1$

 (2) $-2$ (4) $-\frac{13}{3}$