**Name Job 5 Solving Inequalities**

**Part 1: Textbook**

Textbook Lesson 1-5 Page 33: 2, 12, 15, 16, 17, 24, 27, 46, 47

**Part 2: Algebra Regents Questions –**

1.Dominic has $656 in his account. Each week, *w*, he withdraws $54 for his expenses. Which expression could be used if he wanted to find out how much money he had left after 8 weeks?

 1) $656-8w$

|  |  |
| --- | --- |
| 2) | $656+54(w-1)$  |
| 3) |  $656w-54$ |
| 4) |  $656-54(w-1)$ |

2.A local school was looking to hire someone to mow the property. They narrowed their choices to two companies. Lovely Lawns Company charges a flat rate of $140 per hour. Albany Lawn Care charges $60 per hour plus a $1200 equipment fee.

a) Write two equations representing how much each company charges.

b) If it is estimated to take at least 12 hours to complete the law mowing job, which company will be less expensive? Justify your answer.

c) If it is estimated to take no more than 18 hours to complete the job, which company will be less expensive? Justify your answer.

3. What is the solution to the inequality $2+\frac{4}{9}x\geq 4+x$

1. $x\leq -\frac{18}{5}$
2. $x\geq -\frac{18}{5}$
3. $x\leq \frac{54}{5}$
4. $x\geq \frac{54}{5}$

4. State whether $7-\sqrt{2}$ is rational or irrational. Explain your answer.

5. Given that , solve for *x* in terms of *a* and *b*: b(x – 2) > ax + 3b

6. What is the solution for the equation $x+1=x+2$?

 (1) $-1$

 (2) $\frac{1}{2}$

(3) all real numbers

(4) There is no solution

7. The formula for the sum of the degree measures of the interior angles of a polygon is . Solve for *n*, the number of sides of the polygon, in terms of *S*.

8. What is the solution of $4x-30\geq -3x+12$?