** Name: Period: Job 35: Solving Quadratics Using Square Roots**

**Part 1: Lesson 9-2 & 9-4 Textbook**

Lesson 9-3 Page 367: 6, 8, 10, 29

Lesson 9-4 Page 379: 6, 9, 10, 14, 15

**Part 2: Algebra Regents Questions –**

1. Ramier determines the zeros of the function $f(x)$ to be $-9$ and $3$. What could be Ramier’s function?

 (1) $f\left(x\right)=(x+9)(x+3)$ (3) $f\left(x\right)=(x+9)(x-3)$

 (2) $f\left(x\right)=(x-9)(x+3)$ (4) $f\left(x\right)=(x-9)(x-3)$

 2. The function $g\left(t\right)=-8t^{2}+72$ represents the height, $g(t)$, in feet of an object from the ground at $t$ seconds after it is dropped. A realistic domain for this function is

 (1) $-3\leq t\leq 3$ (3) $0\leq g(t)\leq 72$

 (2) $0\leq t\leq 3$ (4) all real numbers

1. A company produces $x$ units of a product per month, where $C(x)$ represents the total cost and $R(x)$ represents the total revenue for the month. The functions are modeled by $C\left(x\right)=300x+250$ and $R\left(x\right)=-0.5x^{2}+800x-100$. The profit is the difference between revenue and cost where $P\left(x\right)=R\left(x\right)-C(x)$. What is the total profit, $P\left(x\right)=R\left(x\right)-C(x)$. What is the total profit, $P(x)$, for the month?
2. $P\left(x\right)=-0.5x^{2}+500x-150$
3. $P\left(x\right)=-0.5x^{2}+500x-350$
4. $P\left(x\right)=-0.5x^{2}-500x+350$
5. $P\left(x\right)=-0.5x^{2}+500x+350$
6. The third term in an arithmetic sequence is 10 and the fifth term is 26. If the first term is $a\_{1}$, which is an equation for the $n$th term of this sequence?
7. $a\_{n}=8n+10$ (3) $a\_{n}=16n+10$
8. $a\_{n}=8n-14$ (4) $a\_{n}=16n-38$
9. Which expression is equivalent to $x^{4}-12x^{2}+36$?
10. $(x^{2}-6)(x^{2}-6)$ (3) $(6-x^{2})(6+x^{2})$
11. $(x^{2}+6)(x^{2}+6)$ (4) $(x^{2}+6)(x^{2}-6)$
12. 

 

1. Which situation could be modeled by using a linear function?
2. A bank account balance that grows at a rate of 5% per year, compounded annually
3. A population of bacteria hat doubles every 4.5 hours
4. The cost of a cell phone service that charges a base amount plus 20 cents per minute
5. The concentration of medicine in a person’s body that decays by a factor of one-third every hour