Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3rd 9 Weeks Exam Practice Problems Mrs. Theriot/Rivere

Date: \_\_\_\_\_\_\_\_\_\_\_ Blk 1 2 3

THE BEST STUDY GUIDE IS YOUR OLD TESTS. BE SURE TO STUDY ALL VOCABULARY IN ADDITION TO THE SKILLS COVERED ON YOUR 3RD 9 WEEKS TESTS.

The problems given here are simply practice problems and should NOT be the only thing you study.

I. Simplify using properties of exponents.





11)  12)  13)  14) = 15) =

II. Use exponential growth or decay models to solve. y = C ( 1 + r) or y = C ( 1 - r)

|  |  |
| --- | --- |
| 1) A principal of $450 is deposited in an account that pays 2.5% interest compounded yearly. Find the account balance after 2 years. | 2) You bought a used truck for $15,000. The value of the truck will decrease each year because of depreciation. The truck depreciates ate the rate of 8% per year. What will be the value of the truck in 5 years? |

III. Find the sum or difference.

|  |  |
| --- | --- |
| 1)  | 2)  |

IV. Multiply using the distributive property or FOIL.

|  |  |  |  |
| --- | --- | --- | --- |
| 1) 2x  | 2) ( 2x + 3) ( x + 1) | 3) ( y – 2 ) ( y – 3 ) | 4) (3a + 2) ( 2a – 1 )  |

V. Factor. (Use the number game.)

|  |  |  |  |
| --- | --- | --- | --- |
| 1)  | 2)  | 3)  | 4)  |
| 5) 2a2 – x - 3 | 6) 6y2 – 29y – 5 | 7) 8b2 + 2b – 3 | 8) 6y2 – 11y -10 |
| 9) 6x2- 9x – 15  | 10) 4n2 – 22n - 42 | 11) 24r2 – 6r – 45 | 12) 4x2 + 27x + 35 |

VI. Evaluating square roots.

|  |  |  |  |
| --- | --- | --- | --- |
| 1) = |  2) = |   3) = | 4)  when a = -2, b = -5, and c = 2 |

VII. Solving Quadratic Equations - Which method would you use for this section? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| 1)  | 2)  | 3)  | 4)  |

**VIII. Solving Quadratic Equations using FACTORING.**

|  |  |  |
| --- | --- | --- |
| 1) x2 – 64 = 0 | 2) 12x2 – 28x – 24 = 0 | 3) 3x2 – 10x + 8 = 0  |

 Why couldn’t you use square roots to solve these problems? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IX. Solve the following quadratic equations by completing the square.**

|  |  |
| --- | --- |
| 1) x2 - 2x – 35 = 0  | 2) a2 + 12a + 19 = 0 |

Why couldn’t you use factoring to solve these problems? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**X. Solve the following quadratic equations using the quadratic formula.**

|  |
| --- |
| 1) x2 + 9x + 14 = 0 |
| 2) 2x2 – 3x = 8 |

XI. Graph the following quadratic equation

$$f\left(x\right)=x^{2}+6x+5 $$

**y-intercept: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**x-intercept(s): \_\_\_\_\_\_\_\_\_\_\_\_**

**vertex: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**line of symmetry: x = \_\_\_\_\_\_**

**Domain:**

**Range:**

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XII. Solve the following word problems.

1. A relief organization flew over a village and dropped a package of food and medicine. The plane is flying at 1000 feet. The function *h =* –16*t*2 + 1000 gives the package’s height *h* above the ground (in feet) after *t* seconds. Graph the function. How many seconds does it take for the package to hit the ground?
2. A punter kicked the football into the air with an upward velocity of 62 ft/s. Its height *h* in feet after *t* seconds is given by the function *h =* –16*t*2 + 62*t +* 2. What is the maximum height the ball reaches? How long will it take the football to reach the maximum height? How long does it take for the ball to hit the ground?