Alg 3 Summer Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 WS Assessment

 Target 1:

linear Equations

Radical Equations

**I can:**

* Isolate a variable, manipulating equations with more than one variable
* Solve linear/radical equation

**Unit 1: Solving Equation & Inequalities**

* **CCSS.Math.Content.HSA.CED.A.1**: Create equations and inequalities in one variable and use them to solve problems
* **CCSS.Math.Content.HSA.CED.A.2**: Create equations in two or more variables to represent relationships between quantities
* **CCSS.Math.Content.HSA.REI.A.2**: Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
* **CCSS.Math.Content.HSA.CED.A.3**: Represent constraints by equations or inequalities, and by systems of equations and/or inequalities and interpret solutions as viable or nonviable options in a modeling context.
* **CCSS.Math.Content.HSA.CED.A.4**: Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Solve for the named variable

1. 3 (4x - 9) = 9 (x + 1) 2. -8 (p - 4) = 3 (-2 - 4p) + 6p

3. 7 (2n + 3) – 2 (n - 3) = n + 4 + 12n 4. -6 (m + 9) = 3m + (-3 (5m + 8))

5. $\sqrt{1-2x}+5=10$ 6. $\sqrt{1+2x}-5=10$

7. y = mx + b (for x) 8. ax + by = c (for x)

9. $\frac{x+y}{3}=5$ (for y) 10. ax + by = c (for y)

Literal Equation

1. Solve for each variable $h+g^{2}k=mk$

|  |  |  |  |
| --- | --- | --- | --- |
| Solve for h | Solve for k | Solve for m | Solve for g |

1. Solve for each variable $nk=fk^{2}+4m$

|  |  |  |  |
| --- | --- | --- | --- |
| Solve for n | Solve for f | Solve for m | Solve for k |

Solve the following linear equations and check by graph (demos). Stamps (any two problems)

-5(-x + 1) + 4x + 1 = 23 -3(3x – 3) + 3x – 5 = - 32

3(10x + 7) – 6 = 3(2 + 6x) -2(x – 9) = 3(4x – 10) – 6x

-3(8 + 9t) = -6(5t + 10) -11(t – 4) = -5(1 + 12t)

Writing linear equation from story (modeling)

1. Biologists have found that the number of chirps some crickets make per minute is related to temperature. The relationship if very close to being linear. When crickets chirp 124 times a minute, it is about 68 degrees Fahrenheit. When they chirp 172 times a minute, it is about 80 degrees Fahrenheit. Write the linear equation that models this situation. How warm is it when the crickets are chirping 150 times a minute?
2. Suppose a 5 minute sky-surfing costs $59.10 and a 10 minute costs $108.60. How long can you surf if you have $120 to spend?

Radical Equation. Solve the following and check your answer, name extraneous solution

Stamps (any two problems)

$\sqrt{x+40}-17=-11$ $\sqrt{6x-26}+17=21$

$\sqrt{3x+25}=x+9$ $\sqrt{x+3}=x+1$

$\sqrt{x+44}=x+2$ $\sqrt{2x+28}=x+2$

$\sqrt{x}-1=\sqrt{x-3}$ $\sqrt{x}-2=\sqrt{x-5}$

$\sqrt{x}-4=\sqrt{x+2}$ $\sqrt{x}+2=\sqrt{x+8}$

$\sqrt{2x}-3=\sqrt{x+23}$ $\sqrt{9x}-1=\sqrt{3x+13}$

Solve radical equation by graph. Sketch. Stamps (any two problems)

$\sqrt{9x}-1=\sqrt{6x+10}$ $\sqrt{x}-4=\sqrt{6x+19}$

$-2- \sqrt{2x-7}=\sqrt{3x+1}$ $\sqrt{2x+6}=-3+\sqrt{-3-4x}$

$\sqrt{2-\sqrt{x}}=\sqrt{x}$ $\sqrt{4x^{2}+2x-8}=x$

What is the extraneous solution? How do you know if a solution is extraneous or not? (google or siri)

Write an example of problem that has extraneous solution.

**Assessment Target 1**

**I can…** solve linear equations, solve radical equations and identify extraneous solution

1. Solve the equation by algebra and graph

-2(x + 12) – 3x = -3(3x – 8)

2. Solve for each variable $4+h^{2}k=3mk$

3. Solve the radical equation and name its extraneous solution. Redo it by graphing method. Stamp

$$\sqrt{4x}+2=\sqrt{8x-1}$$