Name_____

Write your questions here!

Focused on Learning
Listen with Headphones
Interact with Notes
Practice to Learn
Problems Checked
Evaluate your Answers
Don't Test until You're Ready!

Remember:

Inverse Operations:

Operation	Inverse Operation
Addition +	Subtraction -
Subtraction -	Addition +
Multiplication $*$	Division $\div$
Division $\div$	Multiplication $*$

To solve equations with two or more steps, apply the inverse operations in the reverse order.

Examples:

Solve the following equations for the unknown variable:

Operation Performed on x	Operations to Isolate x
Divide by 2	Multiply by 2
Add 3	Subtract 3

$$\frac{x}{2} + 3 = 19$$

Solve the following equations for the unknown variable:

Operation Performed on x	Operations to Isolate x
Divide by 2.5	Multiply by 2.5
Add 3.2	Subtract 3.2

$$3.2 + \frac{x}{2.5} = 4.6$$

Solve the following equations for the unknown variable:

Combine like-terms, first, if possible!

$2x - 14 + 4 = 10$

$2j - 4j + 10 = 12$

Solve the following equations.

$\frac{f + 2.5}{3} = 2$

$\frac{x - 1}{7} = 1$

Let's try an application problem!

Write an equation for the function described.

The output of a function is 8 more than 3 times the input. Find the input when the output is -1.

Now, summarize your notes here!

Practice 3.2

Solve each equation.

1) $2n - 6 = -28$

2) $6x + 1 = -11$

3) $3 = -4p + 3$

4) $\frac{a}{3} - 7 = -10$

5) $\frac{x + 3}{3} = -3$

6) $-2 = -1 + \frac{k}{14}$

7) $3 = 1 + \frac{r}{3}$

8) $-1 = \frac{x}{2} + 2$

9) $\frac{n + 2}{4} = 1$

10) $-1 - 2v = 11$

11) $2 = \frac{3 + a}{4}$

12) $3x + 2 = 5$

13) $-1 = -x + 2$

14) $-6 = k - 2 - 5$

15) $7 = -5p + 4p$

16) $-7a - 4a = 11$

17) $-6 = 2 + 5x - 6x$

18) $1 = 6p + 6 - p$

19) $-14.5 = -0.2 + 2.6x$

20) $1.5x + 4.1 = -2.8$

Application And Extension

Solve the following equations for the unknown variable:

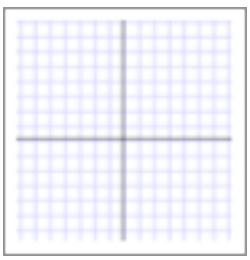
1. $-6 = \frac{z}{4} - 3$

2. $2g - 13 = 3$

3. Suppose the length of a rectangle is 2x + 1 and the width is 3x - 2. Find the value of x if the perimeter is equal to 38 inches. (Hint: draw a picture!)

4. The "Mr. Brust Dance School of Fine Ballet" charges $24 per class and a one-time registration fee $150. A student paid a total of $822 dollars. Find the number classes the student took.

5. Shopping in Germany Mr. Kelly likes to shop at the German grocery store Wasgau. Unlike at the commissary, costumers usually bring their own bags to carry their groceries home. If you forget, however, you can purchase a bag for 0.15€. Suppose Mr. Kelly buys 83 Kinder-Eggs and 4 bags to carry them home. Mr. Kelly pays with *two 20-Euro bills* and receives 2.05€ back in change. Write an equation to find the cost of each KinderEgg. Then, solve your equation!

Quick Review	1. Multiply: $\frac{4}{5} \cdot \frac{5}{2}$	2. Evaluate if x = -3 and y = -1 $3x - y$	3. Simplify: $\frac{5-2}{-3} - 1$
Coming Up	1. Distribute: -6(-x - 1)	2. Simplify: -2x - y - 3x + y	3. Plot (3, -2) 

Algebra 1 Name_____

Practice 3.2

Solve each equation.

1) $2n - 6 = -28$

$+6 \quad +6$

$\frac{2n}{2} = \frac{-22}{2}$

$n = -11$

2) $6x + 1 = -11$

$-1 \quad -1$

$\frac{6x}{6} = \frac{-12}{6}$

$x = -2$

3) $3 = -4p + 3$

$-3 \quad -3$

$\frac{0}{-4} = \frac{-4p}{-4}$

$0 = p$

4) $\frac{a}{3} - 7 = -10$

$+7 \quad +7$

$3 \cdot \frac{a}{3} = -3 \cdot 3$

$a = -9$

5) $\frac{x+3}{3} = -3$ · 3

$x + 3 = -9$

$-3 \quad -3$

$x = -12$

6) $-2 = -1 + \frac{k}{14}$

$+1 \quad +1$

$14 \cdot -1 = \frac{k}{14} \cdot 14$

$-14 = k$

7) $3 = 1 + \frac{r}{3}$

$-1 \quad -1$

$3 \cdot 2 = \frac{r}{3} \cdot 3$

$6 = r$

8) $-1 = \frac{x}{2} + 2$

$-2 \quad -2$

$2 \cdot -3 = \frac{x}{2} \cdot 2$

$-6 = x$

9) $\frac{n+2}{4} = 1$ · 4

$n + 2 = 4$

$-2 \quad -2$

$n = 2$

10) $-1 - 2v = 11$

$+1 \quad +1$

$\frac{-2v}{-2} = \frac{12}{-2}$

$v = -6$

Practice 3.2 Answers... check your work!

11) $2 = \frac{3+a}{4}$ · 4

$8 = 3 + a$

$-3 \quad -3$

$5 = a$

12) $3x + 2 = 5$

$-2 \quad -2$

$\frac{3x}{3} = \frac{3}{3}$

$x = 1$

13) $-1 = -x + 2$

$-2 \quad -2$

$\frac{-3}{-1} = \frac{-x}{-1}$

$3 = x$

14) $-6 = k - 2 - 5$ Combine like terms first!

$-6 = k - 7$

$+7 \quad +7$

$1 = k$

15) $7 = -5p + 4p$

$7 = -1p$

$\frac{7}{-1} = \frac{-1p}{-1}$

$-7 = p$

16) $-7a - 4a = 11$ CLT

$\frac{-11a}{-11} = \frac{11}{-11}$

$a = -1$

17) $-6 = 2 + 5x - 6x$ CLT

$-6 = 2 - 1x$

$-2 \quad -2$

$\frac{-8}{-1} = \frac{-1x}{-1}$

$8 = x$

18) $1 = 6p + 6 - p$ CLT

$1 = 5p + 6$

$-6 \quad -6$

$\frac{-5}{5} = \frac{5p}{5}$

$-1 = p$

19) $-14.5 = -0.2 + 2.6x$

$+0.2 \quad +0.2$

$\frac{-14.3}{2.6} = \frac{2.6x}{2.6}$

$-5.5 = x$

20) $1.5x + 4.1 = -2.8$

$-4.1 \quad -4.1$

$\frac{1.5x}{1.5} = \frac{-6.9}{1.5}$

$x = -4.6$