## Algebra 1 SOL Review Session

Day: 4
Topics: Equations (A. 4 a, c, e), Inequalities (A. 5 a, c), and Properties (A. 4 a, b, A. 5 a)

## Key Concepts:

- The types of solutions possible for equations, inequalities, and literal equations.
- Using Desmos to help determine the solutions of equations and inequalities.
- Identifying properties used to solve equations and inequalities.


## Guided Practice:

Finding Solutions (Handout)
Properties (Handout)

## Independent Practice:

| 1. Solve. $24 a-22=-4(1-6 a)$ | 2. Find the value of the variable that makes the equation true. $5 n+34=-2(1-7 n)$ |
| :---: | :---: |
| 3. Find and graph the solution set to the inequality. $6-4(6 n+7) \geq 122$ | 4. Solve and graph the inequality. $-x<-x+7(x-2)$ |
| 5. Josh and Sacha had a football game last weekend. Josh had twice as many tackles as Sacha, and together they had a total of 15 tackles. How many tackles did they each make? | 6. Margot works on the weekends babysitting and washing cars. She earns $\$ 25$ each Saturday from washing cars. She earns $\$ 12$ an hour babysitting. If she wants to earn at least $\$ 60$ this weekend, how many hours must she spend babysitting? |
|  <br> Which property is used in step 2? | 8. Step 1: $\quad \frac{-v+9}{3}=8$ <br> Step 2: $\quad\left(\frac{-v+9}{3}\right) 3=(8) 3$ <br> Step 3: $\quad-v+9=24$ <br> Step 4: $-v+9-9=24-9$ <br> Step 5: $\quad-v=15$ <br> Step 6: $\quad(-v)(-1)=15(-1)$ <br> Step 7: $\quad v=-15$ |
| Which property is used in step 4? | Which property is used in step 2? <br> Which property is used in step 6? |

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9. A mistake is made while solving an equation. Between which two steps is the mistake made?

$$
\begin{aligned}
\text { Step 1: } & 3(2 \mathrm{x}+1)-(\mathrm{x}-4) & =2 \\
\text { Step 2: } & 6 \mathrm{x}+3-\mathrm{x}-4 & =2 \\
\text { Step 3: } & 5 \mathrm{x}-1 & =2 \\
\text { Step 4: } & 5 \mathrm{x}-1+1 & =2+1 \\
\text { Step 5: } & 5 \mathrm{x} & =3 \\
\text { Step 6: } & \frac{5 x}{5} & =\frac{3}{5} \\
\text { Step 7: } & \mathrm{x} & =\frac{3}{5}
\end{aligned}
$$

11. Solve the equation $A x+B y=C$ for $y$.
12. A mistake is made while solving an inequality. Between which two steps is the mistake made?

$$
\begin{aligned}
& \text { Step 1: } \quad-\frac{1}{3}(x-9) \geq 11 \\
& \text { Step 2: } \quad-\frac{1}{3} x+3 \geq 11 \\
& \text { Step 3: }-\frac{1}{3} x+3-3 \geq 11-3 \\
& \text { Step 4: } \quad-\frac{1}{3} x \geq 8 \\
& \text { Step 5: }(-3)\left(-\frac{1}{3} x\right) \geq(8)(-3) \\
& \text { Step 6: } \quad x \geq-24
\end{aligned}
$$

12. The formula, $F=\frac{9}{5} C+32$ can be used to convert temperatures in degrees Celsius to degrees Fahrenheit. Rewrite the formula to solve for $C$.

More Independent Practice (Multiple Choice)
Michelle correctly solved a linear equation and the last Solve for $x$ : line of her work was: $1=2$
Which statement best describes the solution to the equation Michelle was solving?
A. The solution is 1 .
B. The solution is 2 .
C. The equation has infinitely many solutions.
D. The equation has no solutions.

$$
6 x-11-13 x<7-5 x
$$

Graph the solution set to this inequality.

$$
-(x+4)-2>2 x+6
$$

A.

B.

C.

D.


The formula, $A=\frac{1}{2} b h$ can be used to find the area of a triangle. Which of the equations below shows this formula solved for $b$ ?
A. $b=\frac{1}{2} A h$
A. 2
B. $b=\frac{2 A}{h}$
B. $\frac{1}{2}$
C. $b=2 A h$
C. -2
D. $b=\frac{2}{A h}$
D. $-\frac{1}{2}$

