

Name _____

Date _____

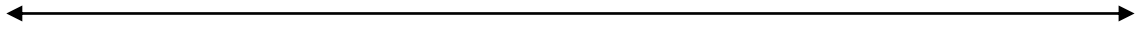
Algebra Readiness 7

Period # _____

Unit 5 Assessment Questions for Days 65 - 79

1. Solve the inequality. $x + 19 \leq 49$

Graph the solution on the number line.



2. Bernice withdrew \$9 from her savings account. She does not remember the amount but she knows she has at least \$11 left. Represent this as an inequality. Then graph.

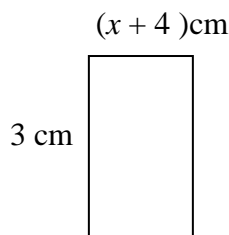
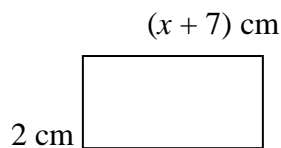


3. Jada has a certain number of "n" books in a series. Pam has twenty books or four more than twice the number of books that Jada has. How many books does Jada have?

4. To solve $x + 10 = 6x$, you can isolate the variable on the left side or the right side of the equal sign. Which method requires the fewest steps? Solve to justify your answer.

5. Solve the following equation and substitute to prove you are correct. $15b + 30 = 24b + 66$

6. The following two rectangles have the same area. Find the value of x . Justify your answer.



The rectangles do not show correctly in PDF form.

7. Simplify this expression. $(2x + 3) + (-5x + 1)$

8. Solve the equation for y : $-6(y - 4) + 9y - 5 = 49$

9. Solve the equation for x : $\frac{5}{4}x - \frac{3}{4}x + (-6) = -3.5$

10. Solve the equation for x : $3x - 5.14 = 4.1$

11. Solve the equation for n : $\frac{n}{2} + 9 = 1$

11. Use the distributive property to rewrite $3(16) + 3(-14)$ in another way; show that the expressions are equivalent.

12. Rewrite using the distributive property: $4(x + 2\frac{3}{4})$.

13. If $6(-3 + n) = 60$ what is the value of n ?

14. Alma practices the piano for “ x ” minutes on Monday and twice as many minutes on Wednesday. In all, Alma practiced 42 minutes on Monday and Wednesday. Write and solve an equation to determine how long she practiced on Monday.

Solve each equation; use substitution to check your solution.

15. $x + 12 = -2$

16. $t - 7\frac{1}{2} = 15\frac{1}{4}$

17. $-4x = 24$

18. $\frac{n}{5} = 7\frac{2}{5}$

19. Movie Madness rents movies at \$3.95 for the first night, plus \$1.25 for each additional night. If when a movie was returned, the cost was \$7.70 which of the following equations would best represent the video rental?

- A. $\$3.95 + \$1.25 = \$7.70$ B. $\$3.95 + \$1.25 + x = \$7.70$
C. $\$3.95 + \$1.25x = \$7.70$ D. $\$1.25 - x + \$3.95 = \$7.70$

20. President Ronald Reagan died in 2004 at the age of 91. Write an equation that might be used to find the year, “ y ”, that President Reagan was born. Explain how this equation will determine the year he was born. Solve the equation to find the year that President Reagan was born

21. Copper is Marco’s dog. Copper likes to jump over the 48 inch high fence in his yard. The height of the fence is 8 times the length of Copper’s tail. Write an equation that you could use to determine the length of Copper’s tail. Explain how you would solve the equation.

22. Marco’s has a second dog whose tail is 3 inches shorter than Copper’s tail. How long is the second dog’s tail?

Name

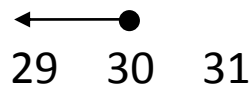
2/3 & 6/12

Algebra Readiness 7

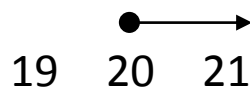
Period #

Outcome: Review Unit 5

$$\begin{aligned} 1. \quad x + 19 &\leq 49 \\ \quad -19 \quad -19 \\ x &\leq 30 \end{aligned}$$



$$\begin{aligned} 2. \quad x - 9 &\geq 11 \\ \quad +9 \quad +9 \\ x &\geq 20 \end{aligned}$$



$$\begin{aligned} 3. \quad 2n + 4 &= 20 \\ \quad -4 \quad -4 \\ 2n &= 16 \\ \div 2 \quad \div 2 \\ n &= 8 \end{aligned}$$

$$\begin{aligned} 2(8) + 4 &= 20 \\ 16 + 4 &= 20 \\ 20 &= 20 \end{aligned}$$

$$\begin{aligned} 4. \quad x + 10 &= 6x \\ -x \quad -x \\ 10 &= 5x \\ \div 5 \quad \div 5 \\ 2 &= x \end{aligned}$$

$$\begin{aligned} 2 + 10 &= 6(2) \\ 12 &= 12 \end{aligned}$$

$$\begin{aligned} 5. \quad 15b + 30 &= 24b + 66 \\ -15b \quad -15b \\ 30 &= 9b + 66 \\ -66 \quad -66 \\ -36 &= 9b \\ \div 9 \quad \div 9 \\ -4 &= b \end{aligned}$$

$$\begin{aligned} \underline{15(-4)} + 30 &= \underline{24(-4)} + 66 \\ -60 + 30 &= -96 + 66 \\ -30 &= -30 \end{aligned}$$

$$\begin{aligned}
6. \quad & 2(x + 7) = 3(x + 4) \\
& 2x + 14 = 3x + 12 \\
& -2x \quad -2x \\
& 14 = x + 12 \\
& -12 \quad -12 \\
& 2 = x
\end{aligned}$$

$$\begin{aligned}
& 2(2 + 7) = 3(2 + 4) \\
& 2(9) = 3(6) \\
& 18 = 18
\end{aligned}$$

$$\begin{aligned}
7. \quad & (2x + 3) + (-5x + 1) \\
& -3x + 3 + 1 \\
& -3x + 4
\end{aligned}$$

$$\begin{aligned}
8. \quad & -6(y - 4) + 9y - 5 = 49 \\
& -6(y + 4) + 9y + 5 = 49 \\
& -6y + 24 + 9y + 5 = 49 \\
& 3y + 24 + 5 = 49 \\
& 3y + 19 = 49 \\
& -19 \quad -19 \\
& 3y = 30 \\
& \div 3 \quad \div 3 \\
& y = 10
\end{aligned}$$

$$\begin{aligned}
& -6(10 - 4) + 9(10) - 5 = 49 \\
& -6(6) + 90 - 5 = 49 \\
& -36 + 90 - 5 = 49 \\
& 54 - 5 = 49 \\
& 49 = 49
\end{aligned}$$

$$\begin{aligned}
9. \quad & \frac{5}{4}x - \frac{3}{4}x + (-6) = -3.5 \\
& \frac{2}{4}x + (-6) = -3.5 \\
& \quad -(-6) \quad -(-6) \\
& \frac{1}{2}x = 2.5 \\
& \div \frac{1}{2} \quad \div \frac{1}{2} \\
& x = 5
\end{aligned}$$

$$\begin{aligned}
& \frac{5}{4}(5) - \frac{3}{4}(5) + (-6) = -3.5 \\
& \frac{25}{4} - \frac{15}{4} + (-6) = -3.5 \\
& \frac{10}{4} + (-6) = -3.5 \\
& \frac{10}{4} + \left(-\frac{24}{4}\right) = -3.5 \\
& -\frac{14}{4} = -3.5 \\
& -3\frac{2}{4} = -3.5
\end{aligned}$$

$$\begin{aligned}
 10. \quad 3x - 5.14 &= 4.1 \\
 \quad +5.14 \quad +5.14 \\
 3x &= 9.24 \\
 \div 3 \quad \div 3 \\
 x &= 3.08
 \end{aligned}$$

$$\begin{aligned}
 3(3.08) - 5.14 &= 4.1 \\
 9.24 - 5.14 &= 4.1 \\
 4.10 &= 4.1
 \end{aligned}$$

$$\begin{aligned}
 11. \quad \frac{n}{2} + 9 &= 1 \\
 \quad -9 \quad -9 \\
 n \div 2 &= -8 \\
 \quad \times 2 \quad \times 2 \\
 n &= -16
 \end{aligned}$$

$$\begin{aligned}
 -16 \div 2 + 9 &= 1 \\
 -8 + 9 &= 1 \\
 1 &= 1
 \end{aligned}$$

$$\begin{aligned}
 11. \quad 3(16) + 3(-14) \\
 48 + -42 \\
 6
 \end{aligned}$$

$$\begin{aligned}
 3(16 + -14) \\
 3(2) \\
 6
 \end{aligned}$$

$$\begin{aligned}
 12. \quad 4(x + 2 \frac{3}{4}) \\
 4(x + \frac{11}{4}) \\
 4x + \frac{44}{4} \\
 4x + 11
 \end{aligned}$$

$$\begin{aligned}
 13. \quad 6(-3 + n) &= 60 \\
 -18 + 6n &= 60 \\
 - -18 \quad - -18 \\
 6n &= 78 \\
 \div 6 \quad \div 6 \\
 n &= 13
 \end{aligned}$$

$$\begin{aligned}
 6(-3 + 13) &= 60 \\
 6(10) &= 60 \\
 60 &= 60
 \end{aligned}$$

$$\begin{aligned}
 14. \quad x + 2x &= 42 \\
 3x &= 42 \\
 \div 3 \quad \div 3 \\
 x &= 14
 \end{aligned}$$

$$\begin{aligned}
 14 + 2(14) &= 42 \\
 14 + 28 &= 42 \\
 42 &= 42
 \end{aligned}$$

$$\begin{array}{l}
 15. \quad x + 12 = -2 \\
 \quad \quad -12 \quad -12 \\
 \quad \quad x = -14
 \end{array}
 \qquad
 \begin{array}{l}
 -14 + 12 = -2 \\
 -2 = -2
 \end{array}$$

$$\begin{array}{l}
 16. \quad t - 7 \frac{1}{2} = 15 \frac{1}{4} \\
 \quad \quad +7 \frac{1}{2} \quad +7 \frac{1}{2} \\
 \quad \quad t = 22 \frac{3}{4}
 \end{array}
 \qquad
 \begin{array}{l}
 22 \frac{3}{4} - 7 \frac{2}{4} = 15 \frac{1}{4} \\
 15 \frac{1}{4} = 15 \frac{1}{4}
 \end{array}$$

$$\begin{array}{l}
 17. \quad -4x = 24 \\
 \quad \quad \div -4 \quad \div -4 \\
 \quad \quad x = -6
 \end{array}
 \qquad
 \begin{array}{l}
 -4(-6) = 24 \\
 24 = 24
 \end{array}$$

$$\begin{array}{l}
 18. \quad \frac{n}{5} = 7 \frac{2}{5} \\
 \quad \quad \times 5 \quad \times 5 \\
 \quad \quad n = 5 \times \frac{37}{5} \\
 \quad \quad n = \frac{185}{5} \\
 \quad \quad n = 37
 \end{array}
 \qquad
 \begin{array}{l}
 \frac{37}{5} = 7 \frac{2}{5} \\
 7 \frac{2}{5} = 7 \frac{2}{5}
 \end{array}$$

$$19. \quad C \quad \$3.95 + \$1.25x = \$7.70$$

$$\begin{array}{l}
 20. \quad y + 91 = 2004 \\
 \quad \quad -91 \quad -91 \\
 \quad \quad y = 1913
 \end{array}
 \qquad
 \begin{array}{l}
 1913 + 91 = 2004 \\
 2004 = 2004
 \end{array}$$

$$\begin{array}{l}
 21. \quad 8x = 48 \\
 \quad \quad \div 8 \quad \div 8 \\
 \quad \quad x = 6 \text{ in.}
 \end{array}
 \qquad
 \begin{array}{l}
 8(6) = 48 \\
 48 = 48
 \end{array}$$

$$\begin{array}{l}
 22. \quad x + 3 = 6 \\
 \quad \quad -3 \quad -3 \\
 \quad \quad x = 3 \text{ in.}
 \end{array}
 \qquad
 \begin{array}{l}
 3 + 3 = 6 \\
 6 = 6
 \end{array}$$