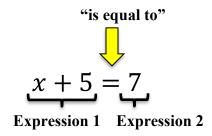
13. You could have created an equation to represent many of the problems on the previous page. For example, in #2, you were asked:

What value for x makes the expression x + 5 equal to 7? In other words, when does the expression x + 5 equal 7? An **equation** is formed by setting two expressions equal to each other.



A **solution** to an equation is a number that <u>makes the equation true</u> when substituted for the unknown. Another way to think of this is to ask the question, "For what value of x does the expression x + 5 evaluate to 7?"

Directions: Determine whether the given number is the solution to the equation given. Justify your answer.

14. x + 8 = 15	15. x - 2 = 9	16. $3x = 24$
Does $x = 7$?	Does $x = 7$?	Does $x = 8$?
17. $8x = 4$	$18.\frac{x}{2} = 12$	$19.\ 25 - x = 19$
$Does x = \frac{1}{2}?$	Does $x = 6$?	Does $x = 6$?
$20. \frac{42}{x} = 6$	$21. x + \frac{2}{3} = 2\frac{1}{6}$	$22.\ 50x = 5$
Does $x = 7$?	Does $x = 1\frac{1}{2}$?	Does $x = 10$?
	2	
23. 12 = x + 8	24.35 = 5x	$25. \ 1 = x - 9$
Does $x = 4$?	Does $x = 30$?	Does $x = 10$?

Directions: Solve the following equations using mental math. Justify your answer.

26. x + 10 = 14	27. x - 5 = 3	28.4x = 20
$29.\frac{x}{7} = 3$	$30.\frac{40}{x} = 5$	31.7 + x = 15
32.9 - x = 8	33.49 = 7x	$34.\ 3 = \frac{x}{5}$
$35. \ x + \frac{1}{2} = \frac{5}{2}$	$36.\ 0.1x = 10$	$37. \frac{1}{4}x = 6$

Spiral Review

1. Simplify the expression. If the expression is already simplified, write "already simplified".

1. Simplify the expression. If the expression is arready	simplified, write already simplified.
a. $m+m+m+m$	b. $4x + 5x + x$
c. $5x + 5y$	d. $4x + 8 + x - 3$

2. Evaluate each expression for x = 5.

2. Evaluate each expression for $x = 3$.		
a. $3x$	b. 3 + x	
c. x ³	d. $2x^3$	

- 3. I am thinking of a number. When I divide the number by 3, I get 15. What is the number?
- 4. After Mario paid \$2.75 for school lunch, he had \$1.25 left. How much money did Mario have before he paid for school lunch.