Name _____

Homework 10-4
Evaluating Algebraic Expressions

Another Look!

How do you evaluate algebraic expressions?

To evaluate an expression with a variable, replace the variable with a value and compute.

Evaluate $36 + n$ for $n = 6$.

Substitute 6 for n. Then add. $36 + 6 = 42$

Find an unknown number.

t	$t - 15$
28	13
41	26
35	
19	4

$28 - 15 = 13$

$41 - 15 = 26$

Substitute 35 for t. $35 - 15 = 20$.

$19 - 15 = 4$.

First substitute a value for the variable. Then simplify the numerical expression.



In **1** through **6**, complete each table.

	w	$w + 16$
1.	6	$6 + 16 =$
2.	9	$9 + 16 =$
3.	14	$+ 16 = 30$

	a	$26 - a$
4.	5	
5.	7	
6.	18	

In **7** through **10**, find the unknown number in each table.

7.

e	16	22	26	31
$3e$	48	66	78	

8.

g	100	72	56	12
$g \div 2$	50		28	6

9.

z	1	18	25	33
$100 - 3z$	97		25	1

10.

p	2	5	10	25
$100 \div 2p$	25	10		2

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11. **Communicate** Explain how you could show five less than a number using an algebraic expression.

12. **Number Sense** Does the expression $d - 12$ have a greater value when $d = 42$ or when $d = 46$? Explain, without computing.

13. Use the table. Anton buys two posters and a mug online. He uses a coupon for $2 off and pays $4.95 for shipping.

DATA

Item	Cost
Poster	$10.75
Mouse pad	$9.95
Mug	$5.75

What is Anton's total cost, including shipping?

14. **Extend Your Thinking** Matt says the expressions $12 \div p$ and $p \div 12$ are equivalent. Darla says they are not equivalent. Who is correct? Explain.

15. Brian worked for $7\frac{2}{3}$ hours yesterday and $6\frac{3}{4}$ hours today. How many hours in all did he work yesterday and today? Give your answer as a mixed number in simplest form.



When you add unlike fractions, remember to first find a common denominator.

16. Jane is making lunch for 12 people. She is serving hot dogs and plans on each person eating 2 hot dogs. Hot dog buns are sold in packages of 8. Which expression can be used to find the number of packages she needs to buy?

A $(12 \div 2) \div 8$
B $(12 \times 2) \div 8$
C $(12 \div 2) \times 8$
D $(12 \times 2) \times 8$

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