

Warm up back of p 32

The difference of a number and 5 divided by 3.

$$\frac{n-5}{3}$$

A number squared plus 2 times a number.

$$n^2 + 2n$$

The square root of a number divided by 2

$$\frac{\sqrt{x}}{2} \quad \sqrt{x} \div 2$$

5 less than three times a number

$$3n-5$$

Name: \_\_\_\_\_

## homework

 Unit 2: Algebraic Expressions
 

Date: \_\_\_\_\_ Per: \_\_\_\_\_

Homework 1: Translating Expressions

Directions: Translate each expression.	
1. "the product of a number and negative 8" $-8n$	2. "a number increased by thirty-five" $n + 35$
3. "two-fifths of a number" $\frac{2}{5}n$	4. "the quotient of a number and 4" $\frac{n}{4}$
5. "18 less than a number" $n - 18$	6. "24 hours per day" $24n$
7. "the total for parking and an admission ticket" $n + a$	8. "\$3 subtracted from the cost of book" $n - 3$
9. "the sum of twice a number and 15" $2n + 15$	10. "the difference of a number squared and 6" $n^2 - 6$
11. "half of a number decreased by 27" $\frac{1}{2}n - 27$	12. "10 more than a number divided by -8" $\frac{n}{-8} + 10$
13. "9 less than the square root of a number" $\sqrt{n} - 9$	14. "-4 times a number plus 29" $-4n + 29$
15. "25 decreased by the product of number and 3" $25 - 3n$	16. "7 points more than twice the number of points scored by the other team" $2n + 7$

Directions: Give two different ways to write each expression in words.	
17. $\frac{x}{-7}$	a) The quotient of a number and -7 b) _____
18. $-4n$	a) The product of -4 and a number b) _____
19. $\frac{k}{3} + 16$	a) The sum of a number divided by 3 and 16 b) _____
20. $2a - 18$	a) The difference of two times a number and 18. b) _____

Name:	Date:
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Topic:	Class:
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Main Ideas/Questions	Notes/Examples
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**DISTRIBUTIVE PROPERTY**

Recall: The distributive property states that

$a(b+c) = ab+ac$  or  $a(b-c) = ab-ac$

**GUIDED EXAMPLES**

1  $4(x+9) = 4x+4(9)$   
 $4x+36$

2  $7(k-3) = 7k-21$

3  $-3(n-8) = -3n+24$

4  $-2(5x-2) = -10x+4$

**YOU TRY!**

Directions: Simplify each expression by distributing.

1.  $7(x+5)$

2.  $5(w-4)$

3.  $-5(m-5)$

4.  $9(2-a)$

5.  $2(y+3)$

6.  $-2(x+7) = -2x-14$

7.  $-7(3-5m) = -21+35m$

8.  $3(2n+8)$

9.  $-12(c+4)$

10.  $-2(4k+5)$

11.  $-(k-2) = -k+2$

12.  $4(1-7p)$

13.  $9(2r-7) = 18r-63$

14.  $-(5k+4) = -5k-4$

15.  $\frac{4}{9}(\frac{3}{8}w+10) = \frac{1}{6}w+\frac{40}{9}$

1) Review for quiz using IXL 8th Grade

Lessons V.1 (translate)

V.3 (translate word problems)

V.12 (distributive property)

Earn smart score of 80 before moving to the next lesson

2) Order of Operation Riddle ws

3) Quiz will begin at 3:20

Name:		Date:	
Topic:		Class:	
Main Ideas/Questions	Notes/Examples		
<b>Evaluating Expressions</b>	<ul style="list-style-type: none"> <li>What is an algebraic expression? An expression that contains one or more <b>Variable</b></li> <li>To evaluate: <b>Substitute</b> the variables with their given values, then follow the <b>order of operations</b></li> </ul>		
<b>Examples</b>	<p><b>Directions:</b> Evaluate each expression using the variable replacements.</p>		
	1. $7x + 4y$ if $x = 5$ and $y = -3$	2. $9a^2 - 2b^2$ if $a = 4$ and $b = 7$	
	3. $4m + 5m$ if $m = -2$	4. $(8c) \div cd$ if $c = 2$ and $d = -4$	
	$4(-2)^2 + 5(-2)$ $4(4) + -10$ $16 + -10$ $6$	$[8(2) - (-4)] \div (2)(-4)$ $[16 - (-4)]$ $20 \div 2(-4)$	
	5. $(ab)^2 - 4b^3 + 1$ if $a = 3$ and $b = 2$	6. $2 r  - 3rs$ if $r = -5$ and $s = 4$	
		$10(-4)$ $-40$	
	7. $(w - v)^2 + 2v - 7w$ if $w = -4$ and $v = 1$	8. $\frac{2}{3}x^2 - 5x + 8$ if $x = 6$	



1.  $7(x) + 4(y)$  if  $x = 5$  and  $y = -3$

$$7(5) + 4(-3)$$

$$35 + -12$$

$$\textcircled{23}$$

2.  $9a^2 - 2b^2$  if  $a = 4$  and  $b = 7$

$$\begin{array}{r} 9(4)^2 - 2(7)^2 \\ 9(16) - 2(49) \\ 144 - 98 \\ \hline 46 \end{array}$$



	<b>9.</b> $3c^2 - cd + 7d^2$ if $c = -3$ and $d = -2$	<b>10.</b> $\sqrt{3p - q} - p^2 + pq$ if $p = 10$ and $q = 14$
	<b>11.</b> $\frac{2ab}{7b - a^2b}$ if $a = 3$ and $b = 12$	<b>12.</b> $\frac{m^4 - m^2n^2}{2m - 2n}$ if $m = 2$ and $n = -9$
	<b>13.</b> $\frac{28 - 4y^2}{xy - 2x^2}$ if $x = -8$ and $y = -5$	<b>14.</b> $\frac{r^2s^2 - 22}{r^2 - (s^3 + 5r)}$ if $r = 7$ and $s = 2$
	<b>15.</b> $\frac{3}{4}c - \frac{1}{6}d$ if $c = \frac{2}{9}$ and $d = -4$	<b>16.</b> $5x^2 - 10x + 3$ if $x = \frac{1}{4}$

Homework

# According to Astronomers, What Is a "Light Year"?



Write the letter of each exercise in the box containing the answer.  
Answers for the top half of the page are in the top row of boxes.

Evaluate for  $a = 5, b = 2, c = 6$ .

- E.  $8a$
- O.  $12b$
- T.  $ab$
- V.  $4bc$
- G.  $a + b + c$
- I.  $50 - c$
- W.  $7(a + c)$
- T.  $\frac{c}{b}$

Evaluate for  $w = 9, x = 10, y = 3$ .

- E.  $5(x + 2)$
- I.  $(4w) + y$
- M.  $8(x + y)$
- S.  $\frac{wx}{y}$
- H.  $\frac{6x}{5y}$
- T.  $100 - (x + y)$
- N.  $x \cdot x$
- L.  $\frac{w + x + y}{2}$

12	10	96	44	30	8	87	77	40	11	48	60	17	104	24	100	3	4	13
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Evaluate for  $k = 2.5, m = 4, n = 12$ .

- S.  $2km$
- E.  $n - (m + k)$
- I.  $m \cdot m \cdot m$
- O.  $\frac{kn}{5}$
- H.  $\frac{m + n}{m}$
- A.  $3(m + n)$
- S.  $\frac{n \cdot n}{m}$
- E.  $\frac{150}{km}$

Evaluate for  $d = 10, u = 7, e = 3.2$ .

- I.  $de$
- W.  $\frac{u \cdot u}{d}$
- S.  $\frac{500}{d \cdot d}$
- T.  $u - e$
- C.  $9du$
- L.  $d(e + 5)$
- R.  $15(d - u)$
- L.  $\frac{ue}{eu}$

28	4.9	64	3.8	4	75	82	15	5	20	9	630	48	1	6	45	32	5.5	36
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IXL  
1<sup>st</sup> grade R1  
R4  
8<sup>th</sup> grade E9

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lancer1

