

6th grade math

Week #4 • Order of Operations

- translating expressions
- evaluating expressions

Keep WK 4 notes for week 5

WK 3 & 4 due May 15

<p><u>Addition</u> +</p> <p>add(ed) together all together both combined in all increase by more than plus sum total <i>perimeter</i></p>	<p><u>Subtraction</u> -</p> <p>decrease by difference fewer than how many more left less than minus remaining take away</p>
<p><u>Multiplication</u> X</p> <p>area multiplied by rate times triple twice as many <i>double = x 2</i></p>	<p><u>Division</u> ÷</p> <p>divided half how many each out of percent</p>

Here are the steps for evaluating an expression:

- Replace each letter in the expression with the assigned value.
- First, replace each letter in the expression with the value that has been assigned to it ...
- However, since variables "vary", the value assigned to a particular variable can change from problem to problem, just not within a single problem.
- Perform the operations in the expression using the correct order of operations,

- ① Grouping Symbols
- ② Exponents
- ③ \times and \div left to right
- ④ $+$ and $-$ left to right

$$46 + (8 \times 4) \div 2 = \underline{\hspace{2cm}}$$

$$72 + (7 \times 4) \div 2 = \underline{\hspace{2cm}}$$

$$49 + (4 \times 4) \div 2 = \underline{\hspace{2cm}}$$

$$31 - 9^2 + 8 = \underline{\hspace{2cm}}$$

$$16 + (4 \times 4) \div 2 = \underline{\hspace{2cm}}$$

$$19 - 7^2 + 5 = \underline{\hspace{2cm}}$$

$$4 \times 8^2 + 11 = \underline{\hspace{2cm}}$$

$$6 \times 3 + 29 = \underline{\hspace{2cm}}$$

$$56 - 5^2 + 2 = \underline{\hspace{2cm}}$$

$$9 \times 6 + 71 = \underline{\hspace{2cm}}$$

$$4 \times 1^2 + 91 = \underline{\hspace{2cm}}$$

$$7 \times 1^2 + 26 = \underline{\hspace{2cm}}$$

$$1 \times 7^2 + 87 = \underline{\hspace{2cm}}$$

$$5 \times (6^2 - 2) = \underline{\hspace{2cm}}$$

$$7 \times (6^2 + 7) = \underline{\hspace{2cm}}$$

$$97 - 1^2 + 4 = \underline{\hspace{2cm}}$$

2.5a Translate to an Algebraic Expression

Addition

- _____ 1. The **sum** of a and 8
- _____ 2. 4 **plus** c
- _____ 3. 16 **added to** m
- _____ 4. 20 **more than** f
- _____ 5. T **increased by** r

Subtraction

- _____ 1. The **difference** of 23 and p
- _____ 2. 550 **minus** h
- * _____ 3. W **less than** 25
- _____ 4. 7 **decreased by** j
- _____ 5. M **reduced by** x
- * _____ 6. 12 **subtracted from** l

Multiplication

- _____ 1. The **product** of 4 and x
- _____ 2. 20 **times** b
- _____ 3. **Twice** x
- _____ 4. $\frac{3}{4}$ **of** m
- _____ 5. 7 **multiplied by** x

Division

- _____ 1. The **quotient** of r and 19
- _____ 2. x **divided by** d
- _____ 3. The **ratio** of c to d
- _____ 4. The price p **per** gallon g

Mixed Practice

- _____ 1. Eight **more than** one – fourth of d
- _____ 2. Five **less than** twice a number
- _____ 3. Seven **increased by** the product of two numbers
- _____ 4. one half **of** some number
- _____ 5. A number m **plus** six times n
- _____ 6. The **sum** of m and n
- _____ 7. Thirty-four **divided by** x
- _____ 8. The **quotient** of two numbers **subtracted from** 20
- _____ 9. The **product** of six and three **less than** the number
- _____ 10. Twice the **sum** of a number and eight

Name : _____

Score : _____

Teacher : _____

Date : _____

Simplifying Algebraic Expressions

1) $-\frac{b}{6} - 9k$ use $b = 24$ and $k = 3$

6) $\frac{16}{b} + 9 - 6w$ use $b = 8$ and $w = 2$

2) $5f + 3s + 6$ use $f = 6$ and $s = 7$

7) $7r + 6 - 8b - 2$ use $r = 7$ and $b = 5$

3) $9 + 8f - 5s$ use $f = 6$ and $s = 8$

8) $3(9f + 5c)$ use $c = 5$ and $f = 8$

4) $-7(-8k + 9f)$ use $k = 2$ and $f = 5$

9) $3 + \frac{28}{z} + 4s$ use $z = 7$ and $s = 5$

5) $-4r + 3(8 + 9s)$ use $s = 6$ and $r = 9$

10) $2s + \frac{36}{k}$ use $k = 9$ and $s = 5$

Name _____ Period _____ Date _____

Writing and Evaluating Expressions Worksheet

Evaluate each expression using the values $m = 7$, $r = 8$, and $t = 2$.

1. $5m - 6$

2. $4m + t$

3. $\frac{r}{t}$

4. mt

5. $5t + 2m$

6. rm

7. $3m - 5t$

8. $\frac{mr}{t}$

Write a word phrase for each algebraic expression.

10. $n + 16$

11. $3.2n$

12. $25.6 - n$

13. $\frac{n}{24}$

14. $\frac{24}{n}$

15. $n - 15$

Write an algebraic expression for each word phrase.

16. 12 more than m machines

17. six times the daily amount of fiber f
in your diet

18. your aunt's age a minus 25

19. the total number of seashells s divided by 10

20. 9 less than k

21. m divided by 6

Words indicating equality, = : is the same as, equal, is, are

Let n represent the number and translate each phrase or sentence.

- | | |
|--------------------------------------|--|
| 1. Four more than a number. | 11. The product of a number and seven more than the number |
| 2. Four times a number | 12. The product of a number and seven less than the number |
| 3. Four less than a number | |
| 4. A number increased by four | 13. Eight less than twice a number is fourteen. |
| 5. A number decreased by four | 14. One less than three times a number is seven. |
| 6. The product of four and a number | 15. Four more than five times a number is two less than the number. |
| 7. Six more than five times a number | |
| 8. Six less than five times a number | 16. Ten less than a number is three more than six times the number. |
| 9. Nine less than twice a number | 17. Twice the sum of a number and 3 is 20. |
| 10. A number divided by 7 | |

Only do #1 thru
#10