

\* You must show how each problem was solved! You cannot just have answers.

Justify your answers!

\* I already provided the answers, so you have to show/explain how to get the answers!

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Practice so you develop a strong understanding of the standards in math.

**Example 1**

To evaluate an expression:

$$2 \cdot 3^2 + 3(6 - 3) + 10$$

- Circle each term in the expression.
- Simplify each term until it is one number by:
  - Simplifying the expressions within the parentheses.
  - Evaluating each exponential part (e.g.,  $3^2$ ).
  - Multiplying and dividing from left to right.
- Finally, combine terms by adding or subtracting from left to right.

$$(2 \cdot 3^2) + (3(6 - 3)) + 10$$

$$(2 \cdot 3^2) + (3(3)) + 10$$

$$(2 \cdot 9) + (3(3)) + 10$$

$$(18) + (9) + 10$$

$$27 + 10$$

$$37$$

**Example 2**

- Circle the terms.
- Simplify inside the parentheses.
- Simplify the exponents.
- Multiply and divide from left to right.

$$5 - 8 \div 2^2 + 6(5 + 4) - 5^2$$

$$a. (5) - (8 \div 2^2) + 6(5 + 4) - 5^2$$

$$b. (5) - (8 \div 2^2) + 6(9) - 5^2$$

$$c. (5) - (8 \div 4) + 6(9) - 25$$

$$d. 5 - 2 + 54 - 25$$

Finally, add and subtract from left to right.

$$32$$

**Example 3**

- Circle the terms.
- Multiply and divide left to right, including exponents.

Add or subtract from left to right.

$$20 + \frac{5+7}{3} - 4^2 + 12 \div 4$$

$$a. (20) + \left(\frac{5+7}{3}\right) - (4^2) + (12 \div 4)$$

$$b. 20 + 4 - 16 + 3$$

$$11$$

**Problems***Show work*

Circle the terms, then simplify each expression.

1.  $5 \cdot 3 + 4$

2.  $10 \div 5 + 3$

3.  $2(9 - 4) \cdot 7$

4.  $6(7 + 3) + 8 \div 2$

5.  $15 \div 3 + 7(8 + 1) - 6$

6.  $\frac{9}{3} + 5 \cdot 3^2 - 2(14 - 5)$

7.  $\frac{20}{6+4} + 7 \cdot 2 \div 2$

8.  $\frac{5+30}{7} + 6^2 - 18 \div 9$

9.  $2^3 + 8 - 16 \div 8 \cdot 2$

10.  $25 - 5^2 + 9 - 3^2$

11.  $5(17 - 7) + 4 \cdot 3 - 8$

12.  $(5 - 2)^2 + (9 + 1)^2$

13.  $4^2 + 9(2) \div 6 + (6 - 1)^2$

14.  $\frac{18}{3^2} + \frac{5 \cdot 3}{5}$

15.  $3(7 - 2)^2 + 8 \div 4 - 6 \cdot 5$

16.  $14 \div 2 + 6 \cdot 8 \div 2 - (9 - 3)^2$

17.  $\frac{27}{3} + 18 - 9 \div 3 - (3 + 4)^2$

18.  $26 \cdot 2 \div 4 - (6 + 4)^2 + 3(5 - 2)^3$

19.  $\left(\frac{42+3}{5}\right)^2 + 3^2 - (5 \cdot 2)^2$

**Answers**

1. 19

2. 5

3. 70

4. 64

5. 62

6. 30

7. 9

8. 39

9. 12

10. 0

11. 54

12. 109

13. 44

14. 5

15. 47

16. -5

17. -25

18. -6

19. -10

