



Evaluating Expressions

KEY IDEA

To evaluate an expression, replace each variable with the number it stands for, then simplify using the order of operations. Always put the substituted value in parentheses — this keeps the sign attached to the number and prevents the most common error with negatives.

How to do it

1. Rewrite the expression, replacing each variable with its value in parentheses.
2. Apply exponents before multiplying.
3. Multiply and divide left to right, then add and subtract left to right.
4. Check the sign of your answer against the signs you substituted.

Worked examples

Example 1. $(x - y)^2 + 3|y|$

when $x = -5$, $y = 5$ **115**

Example 2. $(x - y)^2 + 5|y|$

when $x = 1$, $y = -2$ **19**

Example 3. $(x - y)^2 + 2|y|$

when $x = 5$, $y = -6$ **133**

Example 4. $2xy - y^2$

when $x = 3$, $y = 3$ **9**



Evaluating Expressions

Directions: Evaluate each expression for the values given. Show your substitution.

1. $2xy - y^2$

when $x = 5$, $y = -3$

2. $5x^2 - 2y - 8$

when $x = 5$, $y = -6$

3. $(x - y)^2 + 2|y|$

when $x = -6$, $y = 3$

4. $(x - y)^2 + 4|y|$

when $x = -5$, $y = -6$

5. $2x^2 - 3y - 5$

when $x = -3$, $y = -1$

6. $(x - y)^2 + 2|y|$

when $x = 2$, $y = -2$

7. $2xy - y^2$

when $x = 4$, $y = 3$

8. $2xy - y^2$

when $x = -5$, $y = 2$

9. $4x^2 - 4y + 4$

when $x = -2$, $y = 2$

10. $4x^2 - 5y - 9$

when $x = -2$, $y = 6$

11. $4xy - y^2$

when $x = 4$, $y = 1$

12. $5xy - y^2$

when $x = -4$, $y = 6$

13. $2x^2 - 5y - 1$

when $x = -4$, $y = -2$

14. $4xy - y^2$

when $x = 5$, $y = -3$

15. $4xy - y^2$

when $x = 4$, $y = 3$

16. $(x - y)^2 + 3|y|$

when $x = 3$, $y = 5$

17. $5x^2 - 3y - 7$

when $x = 1$, $y = 1$

18. $3xy - y^2$

when $x = 4$, $y = -5$

19. $2xy - y^2$

when $x = -5$, $y = 3$

20. $(x - y)^2 + 4|y|$

when $x = 5$, $y = 2$

