

Given that a and b are real numbers, what do you know about a and b for each of the following expressions or equations?

1. $a + b = 0$

2. $a \times b = 0$

3. $\frac{a}{b} = 0$

4. $\frac{a}{b} = \text{undefined}$

5. $|a| - |b| > 0$

6. $|a| - |b| < 0$

7. $|a| - |b| \geq 0$

8. $a+3=0$

9. $(a+3)(b)=0$

10. $a \times b > 0$

11. $a \times b < 0$

12. $(a+3)(b+5)=0$

13. $\frac{a}{b}=1$

$$a = b$$

14. $b = 4$

$$a = ?$$

15. $3a < 0$

For the following problems add parenthesis to make the statement true.

16. $5 + 3 \cdot 7 - 2 = 40$

17. $8 - 2 \div 2 = 3$

18. $2 \times 3 + 4^2 - 8 - 5 = 77$

19. $5 - 9 \div 8 \times 2 = -1$

20. $3 - 6 \times 8 \div 12 = -2$

For the following problems, determine if the parenthesis can be removed without changing the value of the expression.

21. $(3+4)-2$

22. $\frac{2(3+4)}{2}$

23. $5-(3+8)-2$