

Algebra RH

Real Numbers and Properties Review

Vocabulary:

natural numbers	simplify	identity
whole numbers	evaluate	undefined
integers	numerical expression	imaginary
rational numbers	algebraic expression	radical symbol
irrational numbers	commutative	radicand
real numbers	associative	index
repeating decimal	distributive	perfect square
nonrepeating-nonterminating decimal	additive inverse	perfect cube
absolute value	multiplicative inverse	

What should I be able to do?

1. Know what numbers belong/do not belong in a set
2. Perform operations with rational numbers
3. Simplify numerical expressions and evaluate algebraic expressions using the order of operations (PEMDAS) and showing all work in "good form"
4. Know the difference between -5^2 and $(-5)^2$
5. Know when to use parentheses when substituting a numerical value for a variable
6. Recognize/give an example of any property
7. Know when an expression is undefined
8. Simplify radical expressions

PRACTICE PROBLEM SET

Always/Sometimes/Never

1. If x is an integer, then $-x$ is a negative number. $x \neq 0$
2. If x is negative and y is positive, then $y - x$ is positive.
3. The difference of two integers is an integer.
4. An integer is a whole number.
5. $|x| = |-x|$

True/False

6. $5 + 0 = 5$ is an example of the additive inverse property.

7. $|-9 + 3| = 12$

8. Zero is a natural number.

9. $(-6)^3 = -6^3$

10. $-\frac{3}{5} > -\frac{2}{7}$

11. The set of odd integers is closed under addition.

12. $\sqrt{81} = \sqrt[3]{27}$

Fill in the correct answer.

13. Complete the statement so that it is true and name the property. $-(2 + 3) = -2 + ?$

14. Complete the statement so that it is true and name the property. $7 \cdot ? = 7$

15. Find a value for both x and y that make $(-x)(-y)$ negative.

16. Find a value of y that makes $-y^2 = 9$

17. Complete the statement so that the product is a natural number. $-\frac{2}{3} \cdot ? =$

Perform the indicated operation.

18. $-\frac{1}{4} + 3$

19. $-2 - 4 + 7$

20. $4 - (-5)(8)$

21. $(-3)(-8)(-2)$

22. $-8.9 - (-3.2)$

Simplify each expression showing all work in "good form".

23. $\sqrt{72}$

24. $-2\sqrt{250a^3b^4}$

25. $\left(3\frac{1}{4}-2\right)\div 5-8$

26. $-18+6^2\div 4\bullet 7-5$

27. $\left(\frac{1}{8}\div\frac{1}{8}\right)^2+\frac{1}{8}\bullet\frac{1}{8}-\frac{1}{16}$

28. $0.02[26-20(0.64+0.3)]$

Evaluate each expression showing all work in "good form". Let $x = -4$, $y = 6$ and $z = -3$

29. $82-4x^3y$

30. $\frac{2(x-y)}{y-z}$

31. $-7+\frac{3x}{z}$

32. $-\frac{x}{z}-9$

Evaluate each expression showing all work in "good form". Let $a = \frac{2}{3}$, $b = -\frac{1}{5}$ and $c = -4$

33. $(ac)\div(ab)$

34. $6(2a+b+\frac{1}{2}c)$

35. $2ab\bullet 3bc$