Do you know HOW?

Write an algebraic expression for each phrase.

1. a number n divided by 4
2. 2 less than the product of 5 and n
3. The table shows how the total cost of a field trip depends on the number of students. What is a rule for the total cost of the tickets? Give the rule in words and as an algebraic expression.

Field Trip

Number of Students	Total Cost
20	$(12 \cdot 20) + 150$
40	$(12 \cdot 40) + 150$
60	$(12 \cdot 60) + 150$

4. The sign shows the costs associated with a whitewater rafting trip. Write an expression to determine the cost of 3 children and 1 adult renting equipment for a whitewater rafting trip that lasts h hours.

Whitewater Tours

Adult Ticket	$53
Child Ticket	$32
Equipment Rental	$5 per hour

Simplify each expression.

5. $24 \div (3 + 2^2)$
6. $\sqrt{144}$

Evaluate each expression for the given values of the variables.

7. $3x \cdot 2 \div y$; $x = 3$ and $y = 6$
8. $(4a)^3 \div (b - 2)$; $a = 2$ and $b = 4$
9. Name the subset(s) of real numbers to which each number belongs. Then order the numbers from least to greatest.
$\sqrt{105}, -4, \frac{4}{3}$
10. Estimate $\sqrt{14}$ to the nearest integer.
11. What property is shown in the following equation?
$$(5 + 8) + 11 = 5 + (8 + 11)$$
12. Use the table below. If the total cost for n sandwiches is $16.50, what is the total cost when 1 more sandwich is bought?

Lunch Menu

Salad	$6.25
Sandwich	$5.50
Drink	$2.75

Do you UNDERSTAND?

13. What word phrases represent the expressions $-2 + 3x$ and $3x + (-2)$? Are the two expressions equivalent? Explain.
14. Use grouping symbols to make the following equation true.
$$4^2 + 2 \cdot 3 = 54$$
15. Choose the correct word to complete the following sentence: A natural number is (*always, sometimes, never*) a whole number.
16. How many natural numbers are in the set of numbers from -10 to 10 inclusive? Explain.
17. What is the simplified form of $\frac{3abc}{abc}$, when $abc \neq 0$? Explain using the properties of real numbers.
18. **Reasoning** Are the associative properties true for all integers? Explain.
19. Use the Commutative Property of Multiplication to rewrite the expression $(x \cdot y) \cdot z$ in two different ways.