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## 2.1 Modeling with Expressions

## Explore Interpreting Parts of an Expression

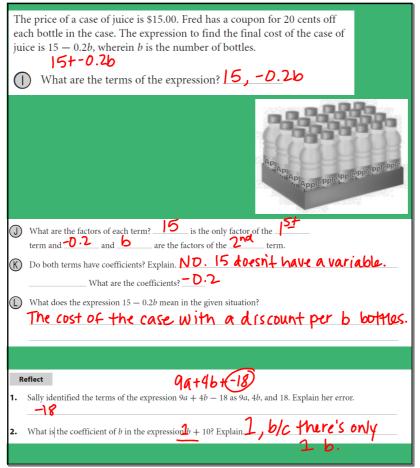
An expression is a mathematical phrase that contains operations, numbers, and/or variables. The terms of an expression are the parts that are being added. A coefficient is the numerical factor of a variable term. There are both numerical expressions and algebraic expressions. A numerical expression contains only numbers while an algebraic expression contains at least one variable.

- A Identify the terms and the coefficients of the expression 8p + 2q + 7r. terms:  $\sqrt[8p]{2q}$ ,  $\sqrt[7]{r}$ ; coefficients:  $\sqrt[8p]{2}$ ,  $\sqrt[7]{r}$
- Identify the terms and coefficients of the expression 18 2x 4y. Since the expression involves where the han addition, rewrite the expression as the Sum the terms: 18 2x 4y = 18 + 2x + -4y. So, the terms of the expression are 18 2x 4y = 18 + 2x + -4y and the coefficients are -2x 4y = 18 + 2x + 4y =
- Identify the terms and coefficients in the expression 2x + 3y 4z + 10. Since the expression involves both **Subtraction** addition, rewrite the expression as the sum of the terms: 2x + 3y 4z + 10 = 2x + 3y + 4z + 10. So, the terms of the expression are 2x + 3y + 4z + 10 and the coefficients are 2x + 3y + 4z + 10.

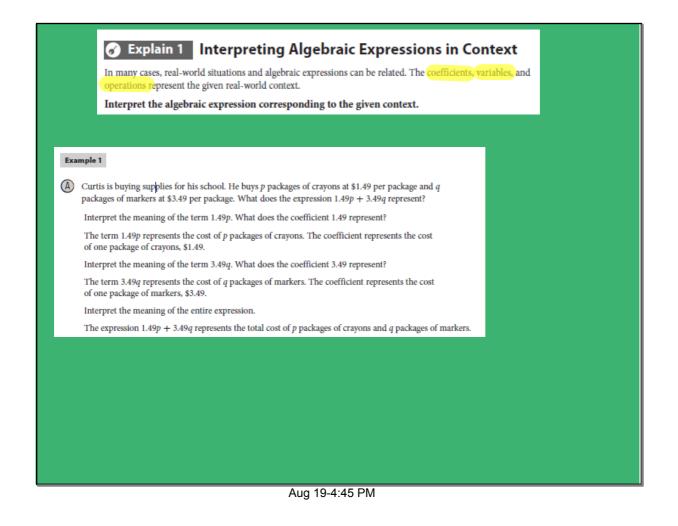
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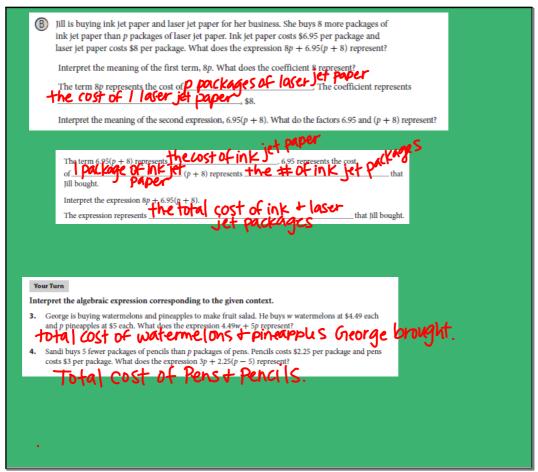
Tickets to an amusement park are \$60 for adults and \$30 for children. If a is the number of adults and c is the number of children, then the cost for a adults and c children is 60a + 30c.

- (D) What are the terms of the expression? 600 300
- (E) What are the factors of 60a?
- (F) What are the factors of 30c? 30 C
- G What are the coefficients of the expression? 40 + 30
- Interpret the meaning of the two terms of the expression. 60 a is the cost for a adults. 30c is the cost for c children.

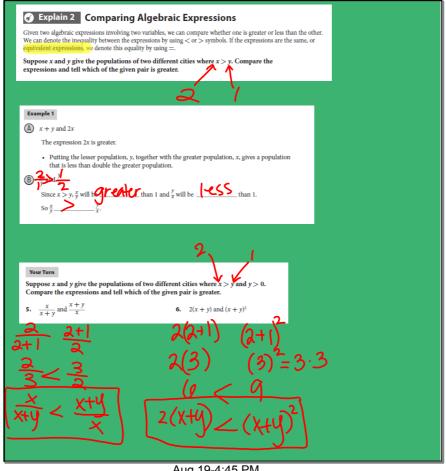


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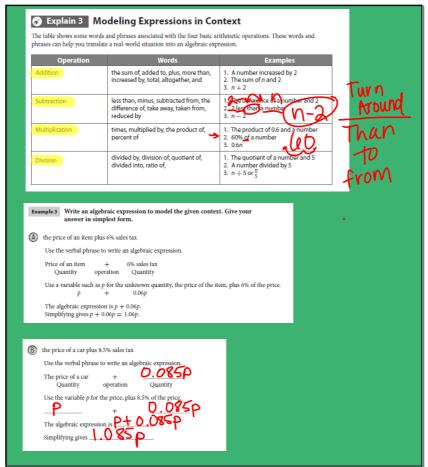




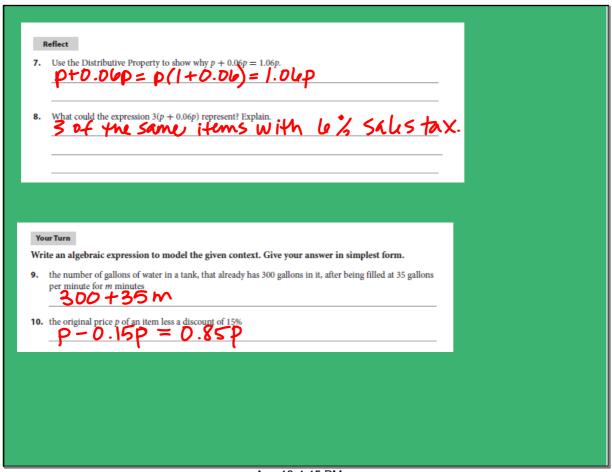
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11. When given an algebraic expression involving subtraction, why is it best to rewrite the expression using	
addition before identifying the terms?	
12. How do you interpret algebraic expressions in terms of their context?	
13. How do you simplify algebraic expressions?	
14. Essential Question Check-In How do you write algebraic expressions to model quantities?	

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