Lesson #5: Understanding Algebraic Expressions and Translating Between Words and Algebraic Expressions and Applications (Reference: Lesson #17 in book)

Problem

1. **For each of the following translate the words or statements into algebraic expressions.**

   1. Some number is decreased by 7.

   2. The product of 12 and some number

   3. Three more than the quotient of some number and 24.

   4. 8 less than 6 times some number.

   5. The difference between the quotient of some number and 12, and 6.

   6. The product of 3 and the sum of some number and 4

   7. The sum of the product of 3 and some number and 7.

   8. The quotient of the product of 12 and some number and 19

9. **For each of the following translate the algebraic expressions into words or statements.**

   9. $y + 12$

   10. $\dfrac{m}{15} - 8$

   11. $8 + 7x$

   12. $5 - \dfrac{w}{12}$

   13. $\dfrac{15x}{8}$

   14. $\dfrac{2}{3}x$

   15. $4(y - 6)$

   16. $\dfrac{(x + 7)}{4}$

17. **For each of the following application problems write an algebraic expression that represents the application problem.**

   17. Jayne has saved x dollars. Write an algebraic expression to represent the total amount of money she will have saved if she saves $75 per week for y number of weeks.

   18. Jon has d dollars in a savings account. He withdraws x dollars each week for 15 weeks. Write an algebraic expression to represent the amount of money that will be left in the savings account at the end of the 15 weeks.

   19. Miles spent $7 of a total amount of x dollars that is in his wallet, and then recieved a paycheck that doubled the amount of money he had left after the $7 purchase. Write an algebraic expression that represents how much money Miles now has.

   20. Employees at Wilkinson Glass Company earn x number of dollars per hour. Executives make y number of dollars per hour. Each employee and executive works 40 hours per week. Write an algebraic expressions that shows the companies payroll for one week.