1. Consider the number 6.

   (a) List all factors of 6.

   (b) Find the average of all factors of 6.

2. A, B, and C worked together for a week. Together they earned \$1500. They split the earnings into ten equal shares. A took 4 shares, B and C took 3 shares each. How much money did they each take?

3. Perform the following division. Present the quotient and the reminder.
   $99 \div 13 =$

4. Perform the following operations. Show all steps.

   (a) $5^2 + 3 \cdot 2^2 \div 3 - 3^2 =$

   (b) $18 - 7 + 1 =$

   (c) $18 \div 6 \cdot 3 =$

   (d) $5 \cdot (50 - 3\,(4(2 \cdot 3 + 1) - 12) + 3) =$

   (e) $75 \div (2^4 - 1^4) \cdot 4^2 + 3^1 \cdot 2^3 =$

   (f) $\dfrac{2 \cdot 5^2 - 3 \cdot (2^3 - 2)}{24 \div 6 + 6 - 3 \cdot (5 - 3)} =$

   (g) $5 \cdot 2^3 - 2 \cdot 4^2 + 25 - 7 \cdot 3 =$

   (h) $\dfrac{(3^2 - 12 \div 4)^2 + 5^2 - 1}{2^5 - 2(1^4 - 3 \cdot 5)} =$

5. Evaluate $\dfrac{3ab + 2a^2 - 2b^2}{a + 2b}$ if

   (a) $a = 2$ and $b = -3$.

   (b) $a = -1$ and $b = -2$.

   (c) $a = -6$ and $b = 3$.

6. Consider the equation $3x^3 - 7x + 18 = -x + 3\,(x^2 + 6)$.

   (a) Is the number 2 a solution of this equation?

   (b) Is the number -2 a solution of this equation?

7. Consider the inequality $3x^3 - 7x + 18 \le -x + 3\,(x^2 + 6)$

   (a) Is the number 1 a solution of this inequality?

   (b) Is the number -1 a solution of this inequality?

8. Consider the system of linear equations.

$$\begin{cases} 2x + 3y = 1 \\ 5x + y = -17 \end{cases}$$

Without solving the system, determine which of the following pairs is a solution for the system.
i)　$x = 8$ and $y = -5$
ii)　$x = -4$ and $y = 3$
iii)　$x = 5$ and $y = -3$