

1. A three-digit number begins with the digit 4. If this digit is moved to the end of the number, the new number is 0.75 of the original. Find the original number.
2. Write without parenthesis:

$$a. 2a(a^2 - 3); \quad b. -(2x - 5y); \quad c. (2 - x)(x + 3); \quad d. (y - 4)(y + 3x + 5)$$

3. Factor out the common factor:

Example:

$$9x^4 - 12x^2y^4 = 3 \cdot 3x^2 \cdot x^2 - 4 \cdot 3x^2 \cdot y^4 = 3x^2(3x^2 - 4y^4)$$

$$\begin{array}{llll} a. x^2 - x; & b. a + a^2; & c. 2xy - x^3; & d. b^3 - b^2 \\ e. a^4 + a^3b; & f. x^2y^2 - y^4; & g. 4a^6 - 2a^3b; & h. 9x^4 - 12x^2y^4; \end{array}$$

4. Evaluate (answer 26):

$$\left(\frac{0.8 : \left(\frac{4}{5} \cdot 1.25 \right)}{0.84 - \frac{1}{25}} \right)^2 + \left(\frac{\left(1.08 - \frac{1}{25} \right) : 2\frac{3}{5} : 0.6}{\left(2\frac{1}{25} - 1\frac{4}{5} \right) : 1\frac{4}{5} + (2.6 - 2.6) \cdot 5\frac{1}{25}} \right)^2$$

5. In still water, John's boat goes 4 times as fast as the river flow. He takes a 20 kilometers trip up the river and returns in 4 hours. Find the speed of the river flow.
6. An orange costs 2 cents more than an apple. A grapefruit costs as much as 3 oranges. A fruit basket consists of 10 apples, 5 oranges, and a grapefruit.
 - a. If the price of an apple is a, what is the price of an orange? a grapefruit?
 - b. If the fruit basket costs \$1.96, how much each of the fruits cost?