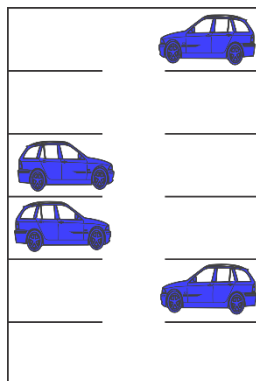
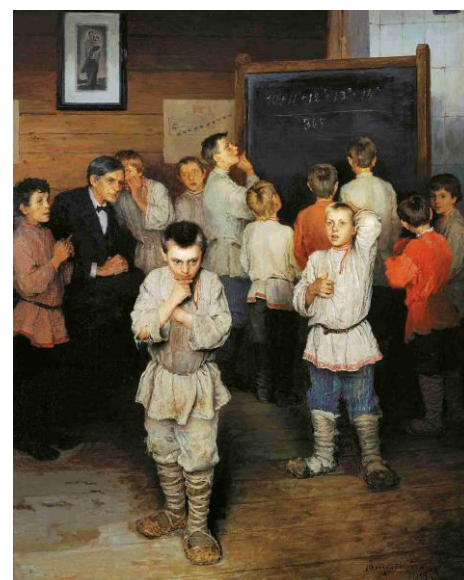
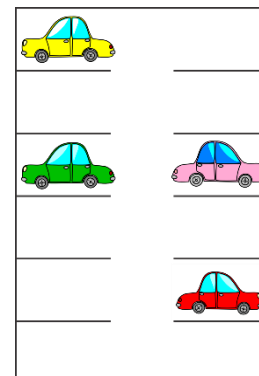


1. Appartment bulding has 12 appartments and a parking for 12 cars (each family has a different car). How many different way are there to park these 12 cars?
2. Today there were only 4 cars at the parking lot. How many different ways are there to park 4 cars on a 12-place parking lot?



3. There is a 12-place parking lot at the dealership. 4 identical cars are parked there. How many different ways are there to park these 4 cars?
4. How many three digit numbers can be created from digits 1, 2, 3, 4, and 5?
5. Evaluate:

$$\frac{10^2 + 11^2 + 12^2 + 13^2 + 14^2}{365};$$



“In the Public School of S. Rachinsky” (1895) was painted by the Russian artist Nikolay Bogdanov-Belsky (1868-1945)

4. Represent the following expressions as an exponent with base 2:

Example:

$$\left(\frac{16^n}{16^{2n}}\right)^2 = \left(\frac{1}{16^n}\right)^2 = \frac{1}{16^{2n}} = \frac{1}{(2^4)^{2n}} = \frac{1}{2^{8n}} = 2^{-8n}$$

$$a. 4^x \cdot 4^y; \quad b. 8^x : 8^y; \quad c. \left(\left(\frac{1}{4}\right)^x\right)^y; \quad d. 4^{-n} \cdot 4^{2n}; \quad e. ((0.25)^{-2})^n$$

5. Simplify the expressions:

a. $m^3 \cdot m^2 + m \cdot m^4$;

c. $2x \cdot xy - 3x^2 \cdot \frac{1}{2}y$;

b. $(2mn^2)^3 + 3m^2n^6m$;

d. $(3x^2y^4)^3 + 7x^4y^3 \cdot \frac{1}{14}x^2y^9$

6. Lines k, m, and f intersect at point O. Two angles are known; find the measures of the other four angles.

