Accelerated Math. Class work 15. a. ;

Algebra.

1. Simplify the following expressions with valid variable values.

а) $b^{k+5} : (-b)^3$; г) $\frac{a^m \cdot a^3}{a \cdot a^{m-1} \cdot a^2}$; ж) $\frac{68x^4y^2z^3}{17x^2y^3z^4}$; к) $\frac{28p^3q^2 - 32p^3q^2}{12p^3q}$;

б) $-c^n : c^{n-2}$; д) $\frac{x^9 \cdot x^3 \cdot x^{2k}}{x^k \cdot x^4 \cdot x^8}$; з) $\frac{15a^{32}b^{15}c^{56}}{10a^{35}b^{14}c^{56}}$; л) $\frac{35x^2y^3 + 55x^2y^3}{15y^3x^2}$;

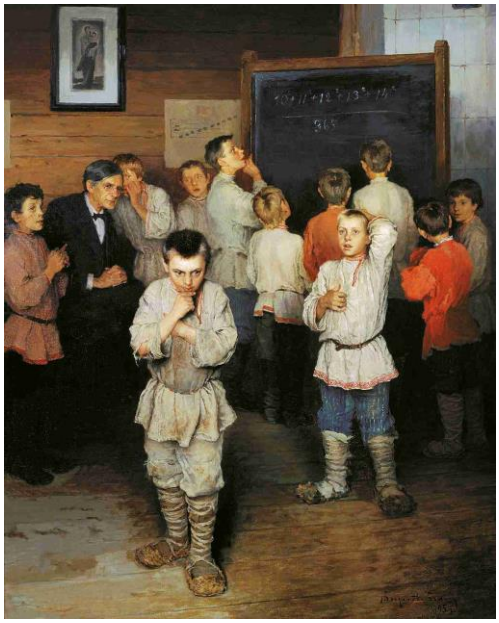
в) $(-x)^{2m} : x^{m+1} \cdot x^2$; е) $\frac{y^{n+1} \cdot y^{2n} \cdot y^5}{y^n \cdot y^3 \cdot y^2}$; и) $\frac{80m^{48}n^{22}k^{50}}{16k^{48}m^{45}n^{21}}$; м) $\frac{16ab^2 + 26ab^2}{32a^2b - 15a^2b}$.

а) $\left(\frac{1}{a^3}\right)^2 \cdot (-3aa^4)$; в) $\frac{-3x^2 \cdot (-xy)^3 \cdot x^0 \cdot y^0}{(x^2)^3 \cdot (-3y)^2}$; д) $\frac{(4bc^3) \cdot (-ac^2)^2 \cdot (2a^2b^3c)^3}{(-2b^2c^2)^5 \cdot (((-a)^2)^2)^2}$;

б) $(-2b^2)^5 \cdot \left(-\frac{1}{2b^3}\right)^3$; г) $\frac{(m^2n)^3 \cdot (mn^4) \cdot (-25m)^2}{(-5m^3n^2)^3 \cdot (mn)^0}$; е) $\frac{(x^2yz)^4 \cdot (7y^2)^3 \cdot (2x^2z)^2}{(-((-x)^2)^2)^3 \cdot (14y^5z^3)^2}$.

2. Compute:

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



(a) $\frac{5x - 15}{x^2 - 9}$ **(b)** $\frac{a^2 - 5a + 6}{3a^2 - 6a}$

(c) $\frac{3x^2 + 14x - 5}{3x^2 + 2x - 1}$ **(d)** $\frac{5p - 15}{p^2 - 4}$