Math 4. Classwork #21

Review of Homework # 19

Compare using <; >; =

a) 5^2 2^5 b) 1^{10} 1^5 c) 134^1 250^1

d) 12^0 18^0 e) 3^4 $3^5 x 3^{-1}$ f) $(5x9)^{15}$ $5^{15} \, x \, 9^{15}$

g) $(-2)^3$ -6 h) $(-2)^3$ $(-2)^2$ k) 1^{15} 1^{150}

Compute:

$12^0 \, x \, 15 \, x \, y^0 =$

$(-2)^5 \, x \, (-1) \, x \, y =$

$x^0 \div 2^2 =$

In a zoo there are birds with 2 legs each and mammals with 4 legs each. How many birds and mammals are in the zoo, if they have 6000 legs and 2500 heads altogether? (use substitution)

Compute the value of the expressions $9a^2$, $(9a)^2$, $-9a^2$, $(-9a)^2$ if :

a) $a = \frac{1}{6}$

b) $a = -0.1$

Rewrite the following expression without parenthesis:

$\left(\frac{1}{2}+a\right)(2+a)=$

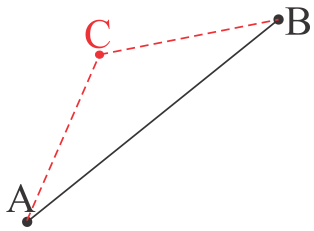
$(n-a)(n+a)=$

$(a+b)(a+b)=(a+b)^2=$

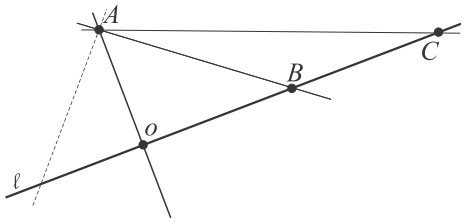
$(2a+2b)(b-c)=$

Geometry.

The shortest distance between two points is a part of a straight line passing through these two points (a segment).

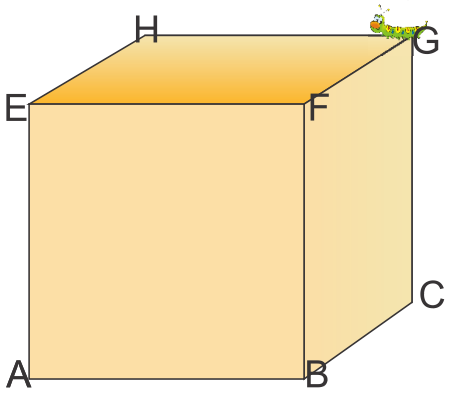


The distance between a point and a line is the distance between the point and the point of intersection of the line and the perpendicular drawn from the point to the line.



AO is a perpendicular drawn from the point A to the line.

|AO| is the distance between the point A and the line l.

Distance between two parallel lines is a distance between any point of one line and the other line.

*On a picture on the right the caterpillar wants to go from vertex G to vertex E on the cube. Draw the shortest way for it to go. What will be the shortest way to go from the vertex G to vertex A? Find all possible solutions.