$|\overrightarrow{M_1M_2}|^2 = (x_2-x_1)^2 + (y_2-y_1)^2$ — по теореме Пифагора

$|\overrightarrow{M_1'M_2'}|^2 = (a_{11}(x_2'-x_1') + a_{12}(y_2'-y_1'))^2 + (a_{21}(x_2'-x_1') + a_{22}(y_2'-y_1'))^2 =$

$= (a_{11}(x_2'-x_1'))^2 + (a_{12}(y_2'-y_1'))^2 + 2\cdot a_{11}a_{12}(x_2'-x_1')(y_2'-y_1') +$

$+ (a_{21}(x_2'-x_1'))^2 + (a_{22}(y_2'-y_1'))^2 + 2\cdot a_{21}a_{22}(x_2'-x_1')(y_2'-y_1') =$

$= a_{11}^2(x_2'-x_1')^2 + a_{12}^2(y_2'-y_1')^2 + a_{21}^2(x_2'-x_1')^2 + a_{22}(y_2'-y_1')^2 +$

$+ 2(x_2'-x_1')(y_2'-y_1')(a_{11}a_{12} + a_{21}a_{22}) =$

$= (a_{11}^2 + a_{21}^2)(x_2'-x_1')^2 + (a_{12}^2 + a_{22}^2)(y_2'-y_1')^2 =$

$= 1 \qquad 1$

$= (x_2'-x_1')^2 + (y_2'-y_1')^2$

Вывод: $|\overrightarrow{M_1M_2}| = |\overrightarrow{M_1'M_2'}|$, так как

$(x_2-x_2)^2 + (y_2-y_1)^2 = (x_2'-x_1')^2 + (y_2'-y_1')^2$.

Урок 3.2
Задание 2