

### Answer on Question#39416, Math, Matrix

Let us multiply  $AB$  and  $BA$  .  $AB = \begin{pmatrix} 3a+6 & 3b+10 \\ 4a+3 & 4b+5 \end{pmatrix}$  ,  $BA = \begin{pmatrix} 3a+4b & 2a+b \\ 29 & 11 \end{pmatrix}$  . Using the second row of identity  $AB=BA$  , obtain  $4a+3=29; 4b+5=11$  , thus  $a=6; b=\frac{3}{2}$  .

$$A = \begin{pmatrix} 3 & 2 \\ 4 & 1 \end{pmatrix} , \quad B = \begin{pmatrix} 6 & \frac{3}{2} \\ 3 & 5 \end{pmatrix} .$$

$$3A+5B = \begin{pmatrix} 39 & 13.5 \\ 27 & 28 \end{pmatrix} .$$