det(A)=-2, det(B)=4, det(C)=3

(i)
$$det(A^2B^T) = (B^T)$$

 $det(A^T) det(B^T) = (det(A^T))^T [det(B^T)] = (-2)^2 \times 4 = 4 \times 4 = 16$
 $det(A^T) = [det(A^T)]^K$
 $det(B^T) = det(B^T)$

$$\textcircled{1} \underline{\det(A^2 + B^2)} = (N/A)$$

There is no general formular expressing det(X+Y) in tems of det(X) and det(Y) alone. Without additional information about the relationship between A and B, dct(14²+8²) can not be determined from determinants alone.

3
$$\frac{det(CB')}{det(CB')} = \frac{3}{4}$$
 $\frac{3}{4}$
 $\frac{det(C)det(B')}{det(B)} = \frac{3}{4}$
 $\frac{3}{4} = \frac{3}{4}$
 $\frac{3}{4} = \frac{3}{4}$