

Name: PILARZ

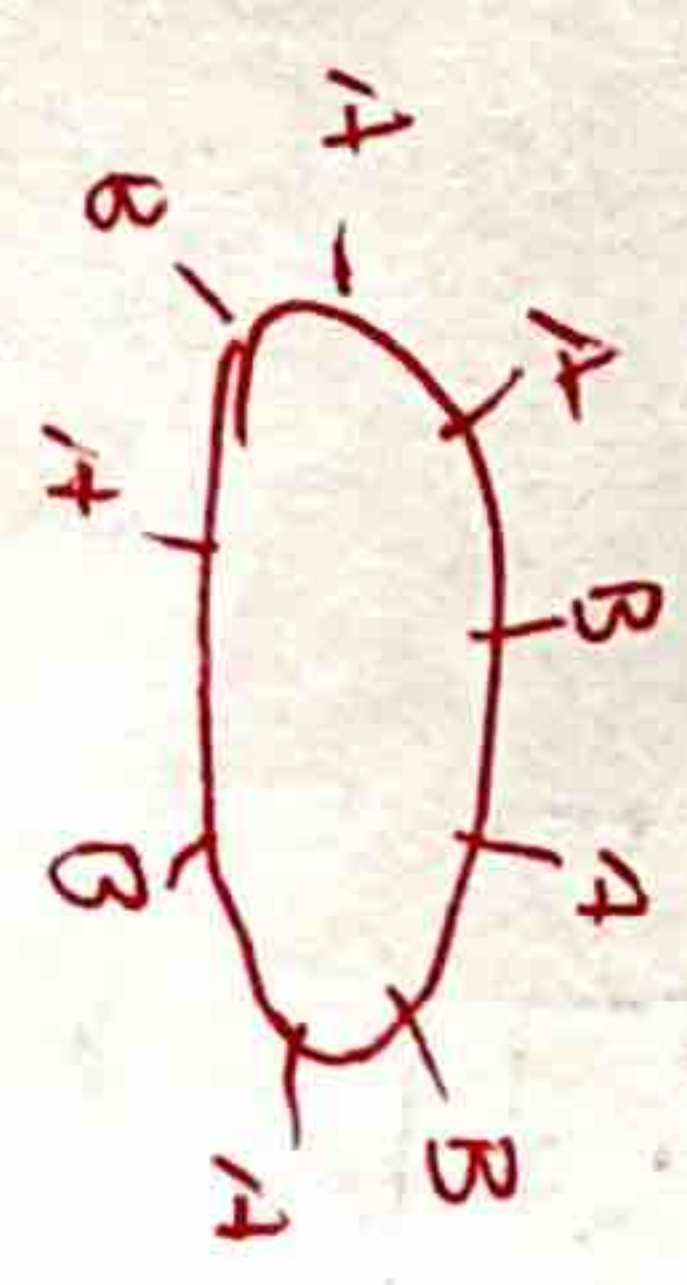
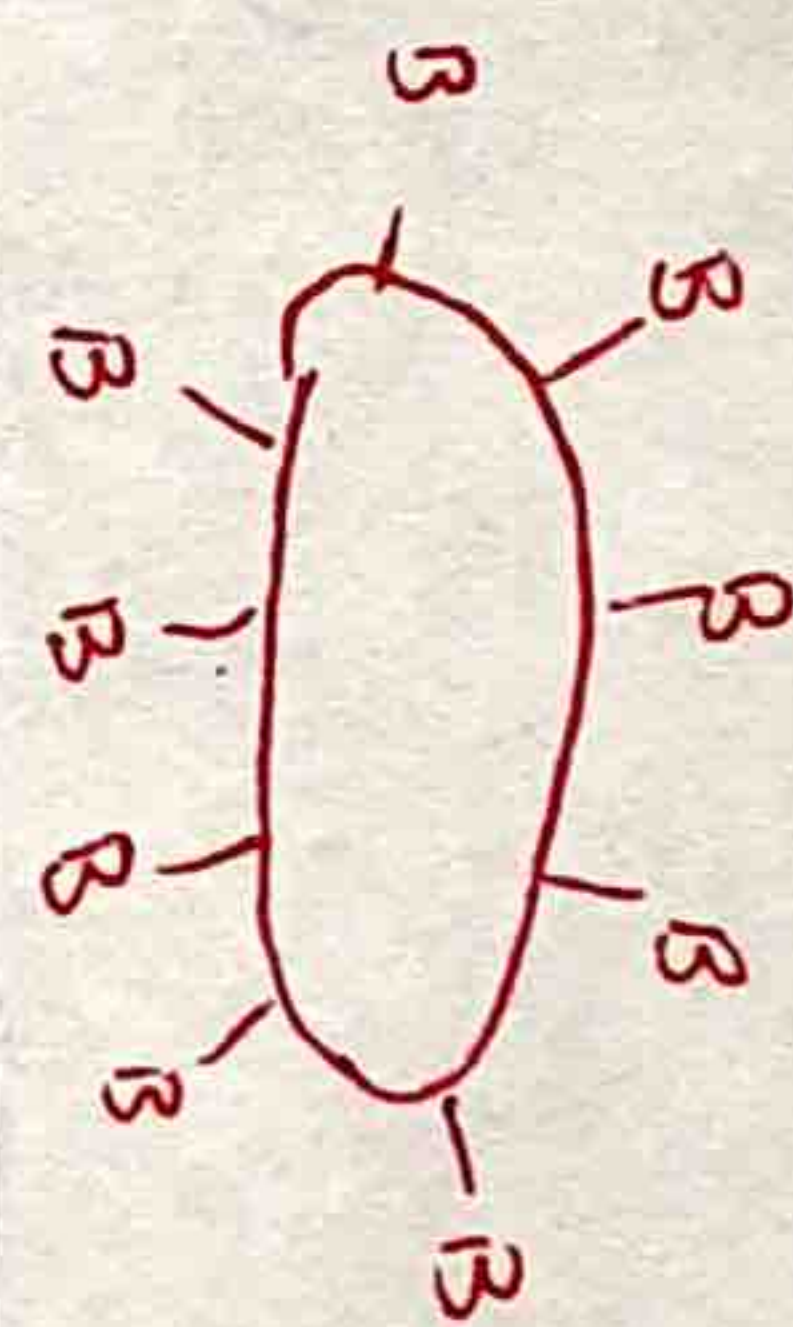
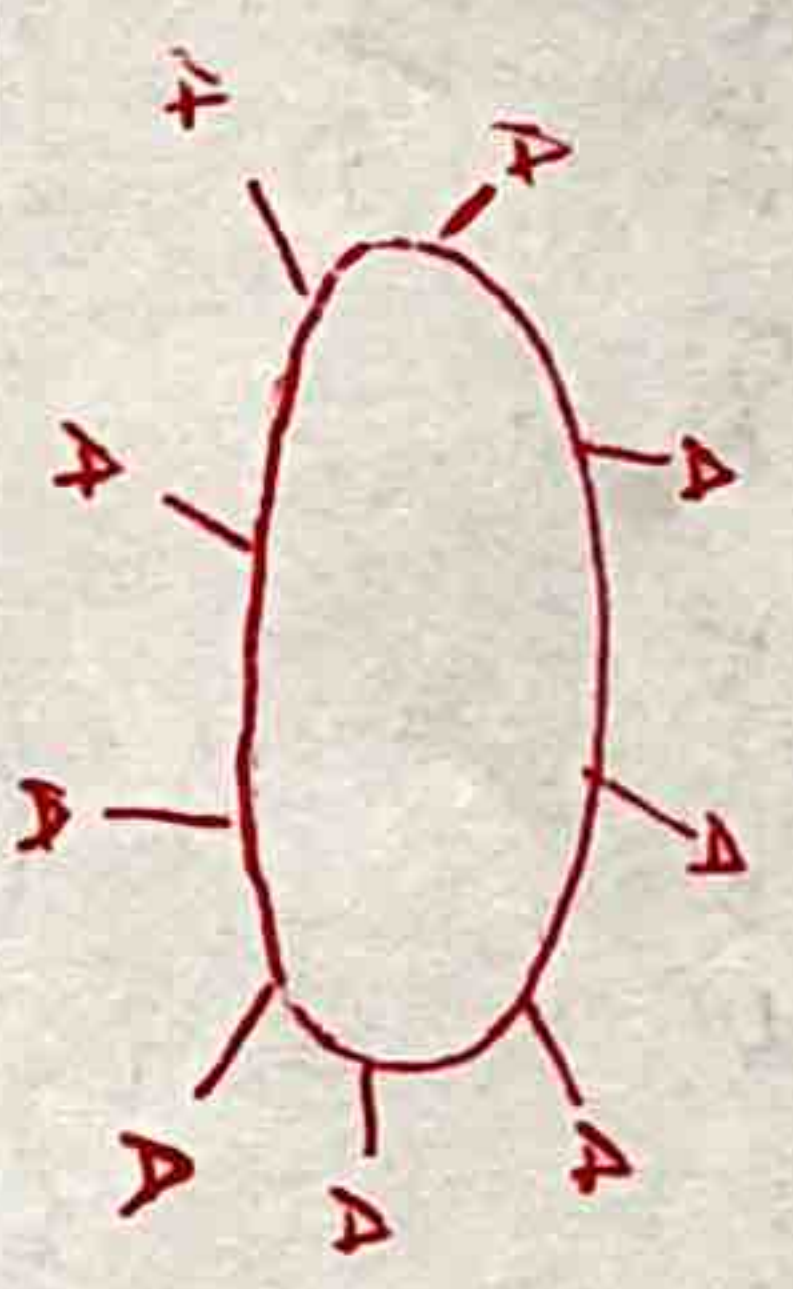
Hour: \_\_\_\_\_

Blood Types  
 Antigens - marker molecules capable of stimulating an immune response

Antibodies - Y shaped proteins that recognize and bind to antigens, if they locate a foreign antigen it will attack/destroy it

Red Blood Cells	Group A	Group B	Group AB	Group O
Antigens Present on RBCs	A antigens	B antigens	A and B antigens	No antigens
Antibodies Present in Plasma	Anti-B	Anti-A	No antibodies	Anti-A and Anti-B
Can Donate To	A and AB	B and AB	Only to AB	(universal donor) A, B, AB and O
Can Receive Blood From	A and O	B and O	(universal receiver) A, B, AB, and O	Only O
Genetic Genotypes Possible	$I^A I^A$ $I^A i$	$I^B I^B$ $I^B i$	$I^A I^B$	$ii$

$I^A$  and  $I^B$  are co-dominant





**Non-compatible Transfusions -**

mixing non-compatible blood types leads to antibodies attacking blood cells and causing blood clumping or agglutination

↳ cause toxic reactions and can have fetal consequences  
 positive blood types have an additional Rh antigen (often called D antigen)  
 negative blood types can develop Rh antibodies if exposed to Rh antigens (D antibodies)

**Rh Factor -**

What blood type is someone who has B + D antigens in their blood? B +

What blood type is someone who has NO antigens in their blood? O -

What blood type is someone who has A + B + D antibodies in their blood? O -

What blood type is someone who has A antibodies in their blood? B + (assuming the +)

What blood type is someone who has A + D antigens and B antibodies in their blood? A +

Two parents think their baby was switched at the hospital. Its 1968, so DNA fingerprinting technology does not exist yet. The mother has blood type "O," the father has blood type "AB," and the baby has blood type "B."

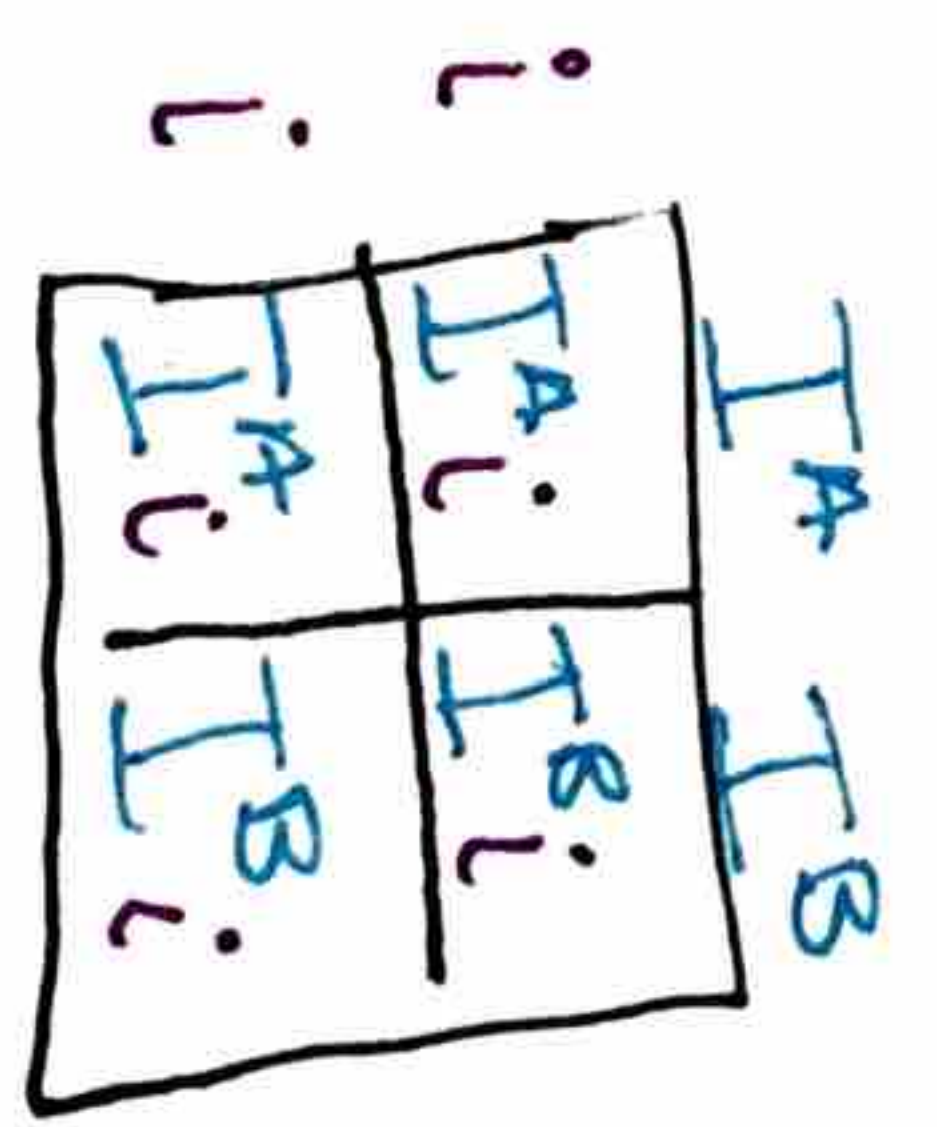
a. Mother's genotype: ii I<sup>A</sup>I<sup>B</sup>

b. Father's genotype: I<sup>A</sup>I<sup>B</sup>

c. Baby's genotype: I<sup>B</sup>I<sup>B</sup> or I<sup>B</sup>i

d. Punnett square showing all possible genotypes for children produced by this couple.

e. Was the baby switched? could be theirs



Two other parents think their baby was switched at the hospital. Amy the mother has blood type "A," Linville the father has blood type "B," and Priscilla the baby has blood type "AB."

a. Mother's genotype: I<sup>A</sup>I<sup>A</sup> or I<sup>A</sup>i

b. Father's genotype: I<sup>B</sup>I<sup>B</sup> or I<sup>B</sup>i

c. Baby's genotype: I<sup>A</sup>I<sup>B</sup>

d. Punnett square that shows the baby's genotype as a possibility

e. Could the baby actually be theirs? yes

