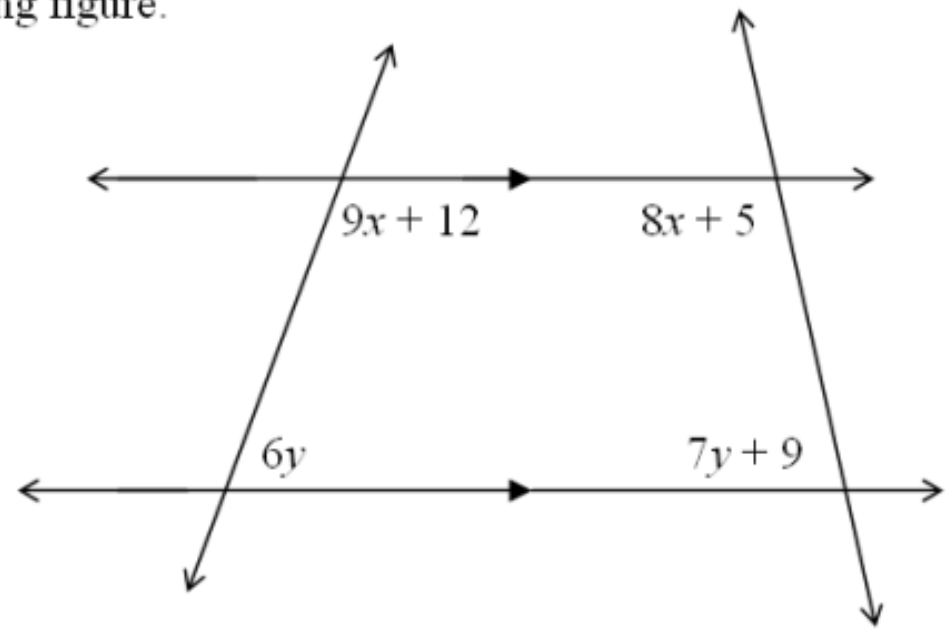
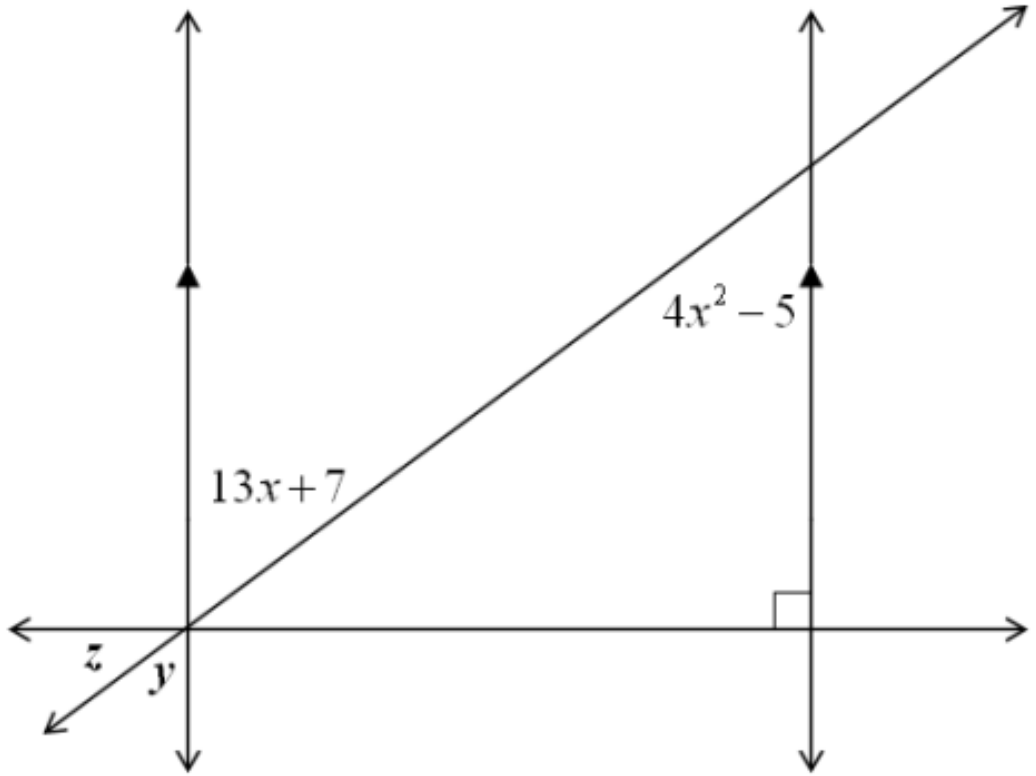
1. Find the value of x and y in the following figure.



2. Find x, y, and z in the following figure.

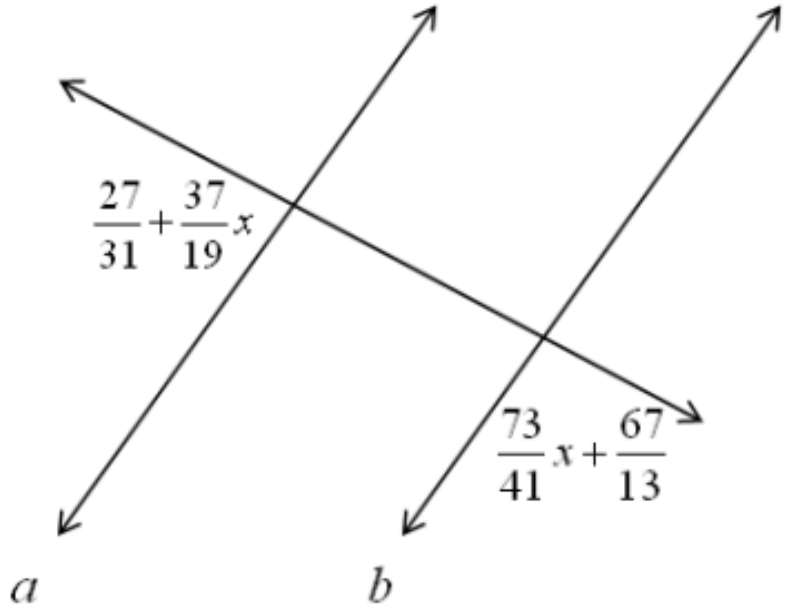


3. Find the value of x so that $a \parallel b$.

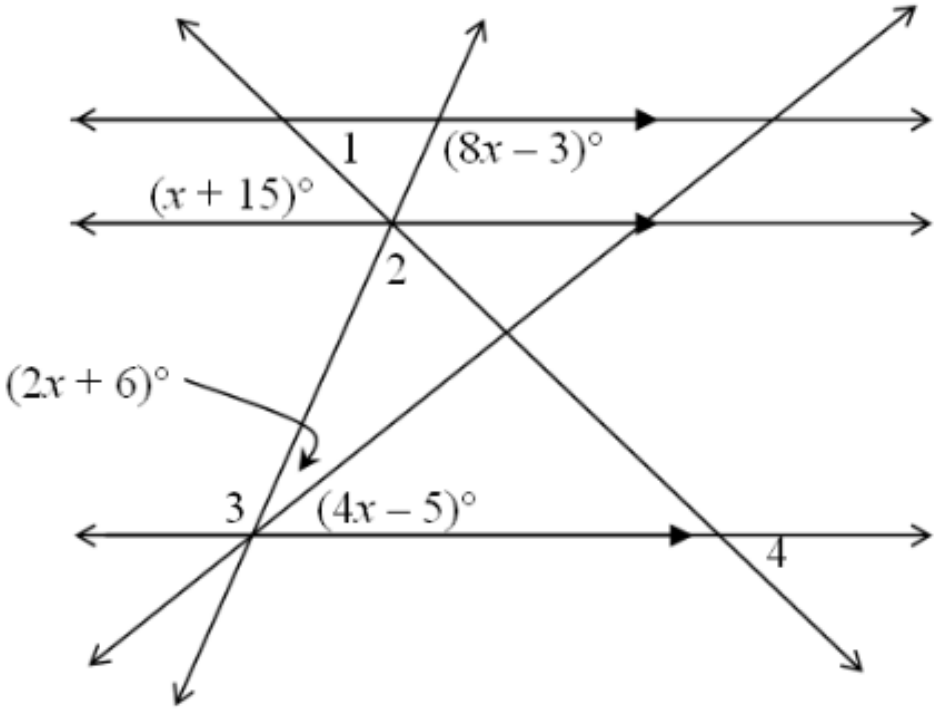
EXPRESS YOUR ANSWER AS A FRACTION!!

(Remember to use parenthesis when entering fractions into your calculator.)

HINT: Your calculator will not express the **final answer as a fraction, it is to large. So you need to simplify before the final answer.**



4. Find the measures of $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$ in the figure below.



5. Archaeologists use bones and other artifacts found at historical sites to study a culture. On analysis they perform is to use a function to determine the height of the person from the tibia bone. Typically, a man whose tibia is 38.500 centimeters long is 173 centimeters tall. A tibia bone was found at an archaeological dig with length 44.125 cm and it was determined that the person was 188 cm tall.

a) Find the height of a person whose tibia bone is 20.875 cm.

b) Find the length of the tibia bone of a person that is 191 cm tall.

c) Explain the meaning of slope in the context of this problem.