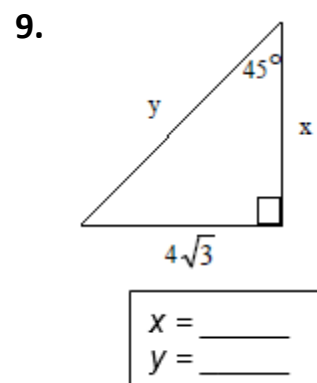
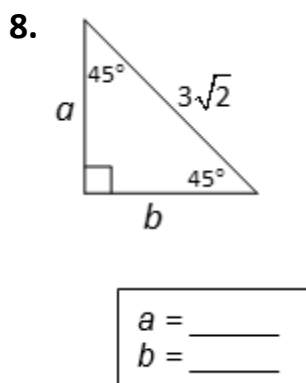
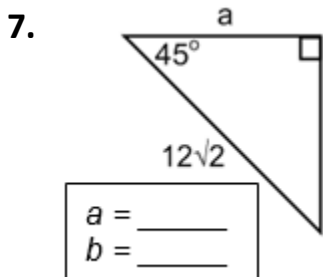
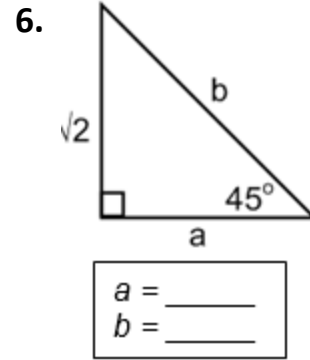
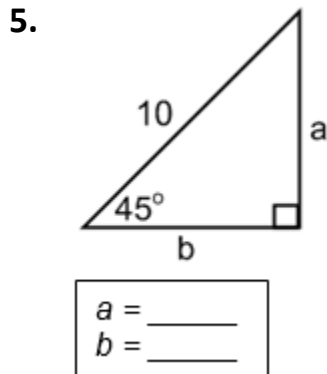
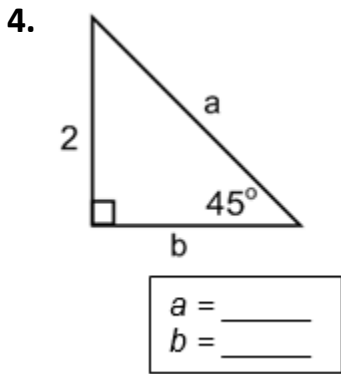
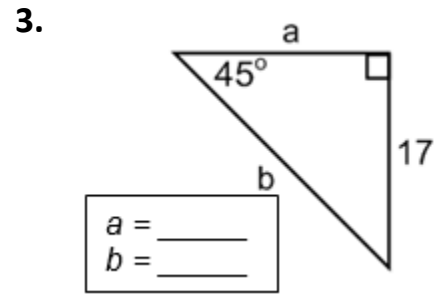
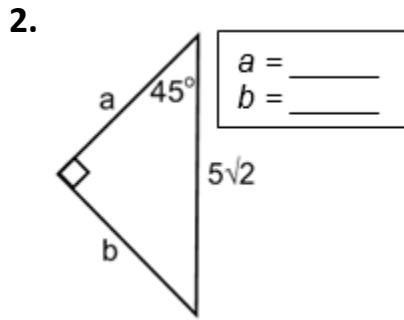
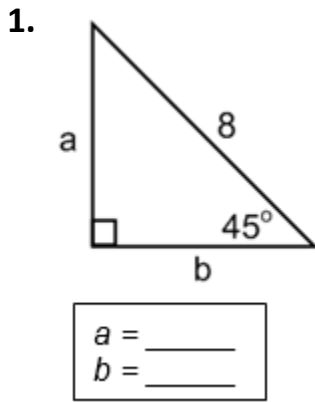


Find the value of each variable.



8. Sam's square bedroom has a diagonal of  $9\sqrt{2}$  feet. What is the length of each side?
9. A square has side lengths of 23 inches. How long is each diagonal?
10. A square has a perimeter of 32 inches. How long is the diagonal?
11. Matt wants to design the first section of a roller coaster track. He wants the ramp section to rise at  $45^\circ$  with the horizontal and connect at the top of a segment 100 feet high. Find  $x$ , the length of the ramp Matt needs to complete his section of the coaster track?

