

- **3-97.** Complete the square to rewrite $y = x^2 - 5x + 7$ in graphing form and state the vertex.



- **3-98.** Your family plans to buy a new air conditioner. They can buy the Super Cool X1400 for \$800, or they can buy the Efficient Energy X2000 for \$1200. Both models will cool your home equally well, but the Efficient Energy model is less expensive to operate. The Super Cool X1400 will cost \$60 per month to operate, while the Efficient Energy X2000 costs only \$40 per month to operate. \
 - a. Write an equation to represent the cost of buying and operating the Super Cool X1400 where C = cost and m = months.
 - b. Write an equation to represent the cost of buying and operating the Efficient Energy X2000.
 - c. How many months would your family have to use the Efficient Energy model to compensate for the additional cost of the original purchase?
 - d. Figuring your family will only use the air conditioner for four months each year, how many years will you have to wait to start saving money overall?