Answer on Question #42517 – Math - Algebra

Question:

Write the quadratic function in vertex form.

$$y = x^2 + 4x + 7$$

$y = (x - 2)^2 + 3$
$y = (x - 2)^2 - 3$
$y = (x + 2)^2 - 3$
$y = (x + 2)^2 + 3$

Solution: To obtain the vertex of parabola which is the graph of the given quadratic function, we have to do some transformations called **completing the square.** Doing this, we have

$y = x^2 + 4x + 7 =$
$= x^2 + 4x + 4 - 4 + 7 =$
$= (x^2 + 4x + 4) + 3 =$
$= (x + 2)^2 + 3$

Answer: The right is fourth case $y = (x + 2)^2 + 3$