Algebra 13-6 Number 9 letter h

Remember that the (b/2)^2 part of completing the square works ONLY IF the coefficient of the first term is 1.

In this problem you have

$16x^2 + 40x + 11 = 0$

So you rearrange to get

$16x^2 + 40x + ? = ? - 11$

Or you know this is going to be

$(4x + y)(4x + y) = ? - 11$

So you multiply it back out and set the middle term to be equal to 40.

So multiplied out you get

$16x^2 + 4yx + 4yx + y^2$

Or

$16x^2 + 8yx + y^2$

Now you know that

$8xy = 40x$

$8y=40$

$Y=5$

Therefore y^2 in the term is 25.

See that

THERE IS ANOTHER TRICK YOU CAN APPLY. SEE BELOW FOR DETAILS

NOTE – the MORE general equation for this method is

IF ax^2 + bx + c =0, where a is a number other than 1,

You can solve by doing this

ax^2 + bx + z = z – c

Where z = b^2 / 4a.

Note that to use this formula in the above we get z = 40^2 / 4*16 = 25!