the depth calculations:

$$the\ period\ of\ write\ clock = \frac{1}{100\ Mhz} = 10\ ns$$

$$the\ period\ of\ read\ clock = \frac{1}{40Mhz} = 25\ ns$$

the transaction length = 10 bytes

time needed to write the 10 bytes = 100 ns

the number of bytes has been read during the writing operation

$$= \frac{100}{25} = 4\ bytes$$

So, fifo depth neede

$= total\ bytes\ ber\ transaction - n.of\ bytes\ has\ been\ read$

$= 10 - 4 = $ 6 bytes

Note: in code I have made it 8 bytes to ease the operations of the address

Wave form: