Selected Answers to Graded Problems in HW #2

Remember to explain all answers in your solutions. You will not receive credit for merely repeating an answer given here. If an answer is not given below, it is either because the solution is trivial or because disclosure of the answer would reveal too much of the solution to the problem.

If you suspect that an answer below is incorrect, please let me know as soon as possible.

1.   a. f_c = 7.1500 MHz; signal is LSB
      b. f_2 = 9.0033 MHz

2.   a. $m(t) = 3\pi t$
      b. $m(t) = 3\pi$

3.   a. B_{FM} = 2,250 kHz
      b. B_{FM} = 450 kHz

4. $v_o(t) = \dfrac{A_{RF}A_{LO}}{2}\cos\left[\left(\omega_m + \Delta\omega\right)t + \theta\right]$