No._____ ECE 1250 homework # 6 a

Name _____

1. Why can't periodic waveforms carry information?

2. What is modulation?

3. How much more information could you transmit with 1MHz of bandwidth than with 400kHz of bandwidth?

4. What does "frequency response" mean?

5. What is the difference between an analog signal and a digital signal?

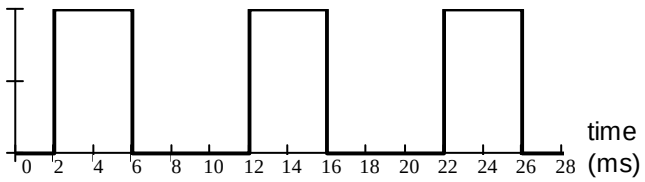
6. Can the conversion from analog to digital be perfect?

7. Can analog signals be processed or recorded without error?

8. Can digital signals be processed or recorded without error?

9. Name two reasons that pulse width modulation is used to regulate the speed of DC motors?

10. What is the duty cycle of a this waveform?



11. A 12-V peak, PWM waveform with a 20% duty cycle is used to drive a DC motor which can be modeled as a 0.8Ω resistor. How much power is delivered to the motor?

Numerical Answers 3. 2.5 times 10. 40·% 11. 36·W