

## Radio transmitter control quiz

Student Name \_\_\_\_\_ Date \_\_\_\_\_ Class Period \_\_\_\_\_

1. A transmitter is using a crystal having a resonant frequency of 75.49 megahertz. A receiver has a crystal with a resonant frequency of 79.41 megahertz. The transmitter frequency is close enough to activate the receiver.
  - A. True
  - B. False
  
2. Resonance phenomena only occur in electronic circuits.
  - A. True
  - B. False
  
3. The RF signal from a Vex transmitter is transmitted in:
  - A. only to the left of the remote control operator
  - B. only to the right of the remote control operator
  - C. only in an axial direction along the antenna length
  - D. only in a radial direction along the antenna length
  - E. none of the above
  
4. A fresh battery is critical to the remote system when conducting experimental investigations.
  - A. True
  - B. False
  
5. The size and shape of the Vex transmitter crystal and the Vex receiver crystal are:
  - A. Equal
  - B. The receiver crystal is larger than the transmitter crystal
  - C. The receiver crystal is smaller than the transmitter crystal
  - D. None of the above
  
6. When using the remote control to run a Vex robot, the following items are important:
  - A. antenna position only
  - B. distance to the receiver only
  - C. battery power in the transmitter only
  - D. all of the above are important
  - E. none of the above are important

7. The time period for a 75.93 MHz Crystal is: (you must use a calculator to answer)

- A. 7.593 microseconds
- B. 75.93 nanoseconds
- C. 13.17 nanoseconds
- D. 1.317 nanoseconds
- E. 131.7 microseconds

$$T = \frac{1}{f}$$

8. The frequency for a crystal having a time period of 2.5 microseconds is:

- A. 250 megahertz
- B. 25 kilohertz
- C. 4 megahertz
- D. 400 kilohertz
- E. 4 gigahertz

$$f = \frac{1}{T}$$

9. The difference between a 75.41 megahertz crystal and a 75.49 megahertz crystal is:

- A. so small it is meaningless
- B. .08 megahertz
- C. 80 kilohertz
- D. A and B
- E. B and C

10. The time period difference between a 75.89 megahertz crystal and a 75.49 megahertz crystal is:

- A. so small it is meaningless
- B. 1.25 microseconds
- C. 12.5 microseconds
- D. 0.4 nanoseconds
- E. 12.5 megahertz