

## QUIZ / Remote Control

NAME

DATE

CLASS PERIOD

Put a check ✓ in the ☐ next to the correct answer.

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.  
☐ True ☐ False
2. Resonance phenomena only occur in electronic circuits.  
☐ True ☐ False
3. The RF signal from a Vex transmitter is transmitted in:  
☐ only to the left of the remote control operator  
☐ only to the right of the remote control operator  
☐ only in an axial direction along the antenna length  
☐ only in a radial direction along the antenna length  
☐ none of the above
4. A fresh battery is critical to the remote system when conducting experimental investigations.  
☐ True ☐ False
5. The size and shape of the Vex transmitter crystal and the Vex receiver crystal are:  
☐ equal  
☐ the receiver crystal is larger than the transmitter crystal  
☐ the receiver crystal is smaller than the transmitter crystal  
☐ none of the above
6. When using the remote control to run a Vex robot, the following items are important:  
☐ antenna position only  
☐ distance to the receiver only  
☐ battery power in the transmitter only  
☐ all of the above are important  
☐ none of the above are important
7. The time period for a 75.93 MHz Crystal is: (you must use a calculator to answer)  
☐ 7.593 microseconds  
☐ 75.93 nanoseconds  
☐ 13.17 nanoseconds  
☐ 1.317 nanoseconds  
☐ 131.7 microseconds

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

**QUIZ** / Remote Control *continued*

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

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

- ☐ 250 megahertz
- ☐ 25 kilohertz
- ☐ 4 megahertz
- ☐ 400 kilohertz
- ☐ 4 gigahertz

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

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

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

- ☐ so small it is meaningless
- ☐ 1.25 microseconds
- ☐ 12.5 microseconds
- ☐ 0.4 nanoseconds
- ☐ 12.5 megahertz