

# Bandwidth 3

Multiple Choice Quiz

TI Precision Labs – Op Amps



## Quiz: Bandwidth 3

### 1. What is a dominant pole?

- a. A high frequency pole that affects closed loop bandwidth.
- b. A high frequency pole that causes gain peaking.
- c. The low frequency pole in the Aol curve.
- d. An external pole added to attenuate gain.

### 2. What is dc open loop gain?

- a. The open loop gain at low frequencies.
- b. The open loop gain at unity gain.
- c. The high frequency open loop gain.
- d. There is no parameter called dc open loop gain.

### 3. Under what circumstances would gain bandwidth product only be defined for a range of gains? For example, gain bandwidth is only defined for closed loop gain greater than 50.

- a. The gain bandwidth is only defined for low bandwidth amplifiers
- b. The gain bandwidth is only defined for voltage feedback amplifiers
- c. The gain bandwidth is only defined if the Aol slope is -40dB/decade
- d. The gain bandwidth is only defined if the Aol slope is -20dB/decade

## Quiz: Bandwidth 3

**4. An inverting amplifier has a gain of -1 and the op amp's gain bandwidth product is 22MHz. What is the closed loop bandwidth?**

- a. 22MHz
- b. 11MHz
- c. 2.2MHz
- d. 1MHz

**5. A non-inverting amplifier has a gain of +1 and the op amp's gain bandwidth product is 22MHz. What is the closed loop bandwidth?**

- a. 22MHz
- b. 11MHz
- c. 2.2MHz
- d. 1MHz

## Quiz: Bandwidth 3

**6. What effect does a second pole in the Aol curve have on closed loop response?**

- a. Depending on the position of the second pole, the closed loop response can have gain peaking.
- b. Depending on the position of the second pole, the closed loop bandwidth can be different than predicted by the gain bandwidth product.
- c. A second pole will increase the slew rate for the amplifier.
- d. A second pole will cancel the phase shift of the first pole.
- e. Options 1 and 2 are correct
- f. Options 3 and 4 are correct



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Multiple Choice Quiz: Solutions

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