

Non-Inverting Amplifier Questions

Question 1

The equation for the gain of an amplifier is:

- A. $\text{Gain} = V_{\text{out}} + V_{\text{in}}$
- B. $\text{Gain} = V_{\text{out}} - V_{\text{in}}$
- C. $\text{Gain} = V_{\text{out}} \times V_{\text{in}}$
- D. $\text{Gain} = V_{\text{out}} \div V_{\text{in}}$

Question 2

The equation for the gain of a non-inverting amplifier is:

- A. $\text{Gain} = 1 + R_i \div R_f$
- B. $\text{Gain} = 1 + R_f \div R_i$
- C. $\text{Gain} = 1 - R_i \div R_f$
- D. $\text{Gain} = 1 - R_f \div R_i$

Question 3

For a non-inverting amplifier, $R_i = 20 \text{ k}\Omega$ and $R_f = 100 \text{ k}\Omega$. The gain of the amplifier is:

- A. + 6
- B. + 5
- C. + 1.2
- D. + 0.2

Question 4

For a non-inverting amplifier, $R_i = 20 \text{ k}\Omega$ and $R_f = 10 \text{ k}\Omega$. The gain of the amplifier is:

- A. + 3
- B. + 2
- C. + 1.5
- D. + 0.5

Question 5

For a non-inverting amplifier, $R_i = 47 \text{ k}\Omega$ and $R_f = 47 \text{ k}\Omega$. The gain of the amplifier is:

- A. + 47
- B. + 2
- C. + 1
- D. + 0

Question 6

A non-inverting amplifier has a gain of + 3. $R_i = 15\text{ k}\Omega$. The value of the feedback resistor is:

- A. $45\text{ k}\Omega$
- B. $30\text{ k}\Omega$
- C. $15\text{ k}\Omega$
- D. $7.5\text{ k}\Omega$
- E. $5\text{ k}\Omega$

Question 7

A non-inverting amplifier has a gain of + 11. $R_i = 68\text{ k}\Omega$.

The value of the feedback resistor is:

- A. $750\text{ k}\Omega$
- B. $7.5\text{ k}\Omega$
- C. $680\text{ k}\Omega$
- D. $6.8\text{ k}\Omega$

Question 8

A non-inverting amplifier has a gain of + 10. $R_f = 1\text{ M}\Omega$. The value of the input resistor is:

- A. $110\text{ k}\Omega$
- B. $100\text{ k}\Omega$
- C. $11\text{ k}\Omega$
- D. $10\text{ k}\Omega$

Question 9

A non-inverting amplifier needs to have a gain of + 4. $R_f = 47\text{ k}\Omega$.

The most appropriate value of the input resistor from the E24 series of standard values would be:

- A. $12\text{ k}\Omega$
- B. $15\text{ k}\Omega$
- C. $15.7\text{ k}\Omega$
- D. $16\text{ k}\Omega$

Question 10

The maximum resistor value of either the input or feedback resistor should be

- A. $1\text{ k}\Omega$
- B. $10\text{ k}\Omega$
- C. $100\text{ k}\Omega$
- D. $1000\text{ k}\Omega$

Answers

1. D
2. B
3. A
4. C
5. B
6. B
7. C
8. A
9. D
10. D

Website

http://www.pfnicholls.com/Electronics_Resources/QuestionIndex.html

© Paul Nicholls

September 2022



Electronics Resources by Paul Nicholls is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).