

Human Biology Algebra

Basic Algebra · Practice Test · 25 Questions

1. An adult human heart beats at an average rate of 72 beats per minute. If 'b' represents total beats in 'm' minutes, which equation represents this relationship?

- A) $b = 72m$
- B) $b = 72 + m$
- C) $b = m / 72$
- D) $b = 72 / m$

2. The average human body temperature is 37 degrees Celsius. To convert Celsius (C) to Fahrenheit (F), the formula is $F = 1.8C + 32$. What is the temperature in Fahrenheit?

- A) 92.4
- B) 98.6
- C) 95.2
- D) 101.4

3. A child's dose of medicine is calculated using the formula $D = (A / 24) * \text{Adult Dose}$, where A is the age in years. If the adult dose is 120mg, what is the dose for a 6-year-old?

- A) 20mg
- B) 30mg
- C) 40mg
- D) 60mg

4. The Body Mass Index (BMI) formula is $\text{BMI} = \text{weight}(\text{kg}) / \text{height}(\text{m})^2$. If a person weighs 70kg and is 1.75m tall, what is their BMI?

- A) 22.86
- B) 24.50
- C) 20.00
- D) 25.75

5. Human teeth are replaced by permanent ones. If a child has 20 baby teeth and 'p' permanent teeth grow in to replace them, with a total count of 32, what is 'p' in the equation $20 + x = 32$?

- A) 10
- B) 12
- C) 14
- D) 8

6. The volume of blood in an average adult is about 5 liters. If a person loses 500ml (0.5 liters), what is the remaining blood volume expressed as an equation where V is remaining volume?

- A) $V = 5 + 0.5$
- B) $V = 5 - 0.5$
- C) $V = 5 * 0.5$
- D) $V = 5 / 0.5$

7. Daily water intake recommendation is approximately 2.5 liters. If a person drinks 'x' liters before noon and 1.5 liters after noon, what equation finds 'x'?

- A) $x + 1.5 = 2.5$
- B) $x - 1.5 = 2.5$
- C) $x * 1.5 = 2.5$
- D) $x / 1.5 = 2.5$

8. A red blood cell survives for about 120 days. If 'd' is the number of days, how many cells are produced per day if 200 billion are produced in 1 day?

- A) 200 billion / d
- B) 200 billion * d
- C) 120 * d
- D) 120 / d

9. The human skeletal system contains 206 bones in an adult. If the skull has 22 bones, how many bones 'b' are in the rest of the body?

- A) $b = 206 + 22$
- B) $b = 206 - 22$
- C) $b = 206 * 22$
- D) $b = 206 / 22$

10. A person breathes about 16 times per minute. If 'b' is total breaths in one hour (60 minutes), calculate 'b'.

- A) 720
- B) 960
- C) 840
- D) 1020

11. If a protein shake has 25g of protein per serving and you need 100g daily, how many servings 's' do you need? Solve $25s = 100$.

- A) 2
- B) 3
- C) 4
- D) 5

12. The average rate of human hair growth is 1.25 cm per month. If 'h' is growth in 'm' months, which expression represents the total growth?

- A) $1.25 + m$
- B) $1.25m$
- C) $m / 1.25$
- D) $1.25 / m$

13. There are approximately 100,000 hairs on an average human scalp. If 100 are lost per day, what is the equation for the remaining hair 'R' after 'd' days?

- A) $R = 100,000 + 100d$
- B) $R = 100,000 - 100d$
- C) $R = 100,000 * 100d$
- D) $R = 100,000 / 100d$

14. The human eye blinks about 15,000 times a day. If 'b' is total blinks in 'd' days, what is the formula?

- A) $b = 15,000 * d$
- B) $b = 15,000 / d$
- C) $b = 15,000 + d$
- D) $b = 15,000 - d$

15. A person walking at a moderate pace burns 5 calories per minute. How many minutes 'm' are needed to burn 200 calories? Solve $5m = 200$.

- A) 20
- B) 30
- C) 40
- D) 50

16. The small intestine is approximately 6 meters long. If the large intestine is 1.5 meters long, what is the total length 'L' in meters?

- A) $L = 6 / 1.5$
- B) $L = 6 * 1.5$
- C) $L = 6 + 1.5$
- D) $L = 6 - 1.5$

17. Human skin replaces itself every 27 days. In 108 days, how many 'c' complete cycles occur? Solve $27c = 108$.

- A) 3
- B) 4
- C) 5
- D) 6

18. A neuron transmits signals at 100 meters per second. In 't' seconds, what distance 'd' does the signal travel?

- A) $d = 100t$
- B) $d = 100 + t$
- C) $d = 100 / t$
- D) $d = t / 100$

19. If 1 gram of fat contains 9 calories, how many grams of fat 'g' are in a meal with 180 fat calories? Solve $9g = 180$.

- A) 10
- B) 15
- C) 20
- D) 25

20. The human body is about 60% water. If a person weighs 80kg, what is the weight of the water 'w'? Solve $w = 0.60 * 80$.

- A) 42kg
- B) 48kg
- C) 50kg
- D) 52kg

21. A muscle cell contains many mitochondria. If each cell has 'm' mitochondria and there are 500 cells, the total count is 50,000. Find 'm'.

- A) 50
- B) 100
- C) 200
- D) 500

22. An average adult inhales 0.5 liters of air per breath. How many breaths 'b' are needed to inhale 10 liters? Solve $0.5b = 10$.

- A) 10
- B) 15
- C) 20
- D) 25

23. The human heart pumps 5 liters of blood per minute. How many liters 'L' are pumped in 24 hours (1440 minutes)?

- A) 7,200
- B) 6,000
- C) 8,400
- D) 9,600

24. If a human fingernail grows 3mm per month, how many months 'm' to grow 15mm? Solve $3m = 15$.

- A) 3
- B) 4
- C) 5
- D) 6

25. The body loses 0.7 liters of water through skin evaporation daily. How much 'w' is lost in one week (7 days)?

- A) 4.2
- B) 4.9
- C) 5.6
- D) 6.3