Isotopes and Ions:

1. An isotope of carbon has an 8 neutrons. What is its atomic mass?

14

2. An isotope of oxygen has 7 neutrons. What is its atomic mass?

15

3. An isotope of sodium has 11 neutrons. What is its atomic mass?

22

4. An isotope of calcium has 21 neutrons. What is its atomic mass?

41

5. An isotope of neon has 3 neutrons. What is its atomic mass?

5

6. An isotope of copper has 35 neutrons. What is its atomic mass?

64

7. An isotope of nitrogen has an atomic mass of 15. How many neutrons does it have?

8

8. An isotope of boron has an atomic mass of 12. How many neutrons does it have?

7

9. An isotope of iron has an atomic mass of 57. How many neutrons does it have?

31

10. An isotope of chlorine has an atomic mass of 34. How many neutrons does it have?

17

11. A nitrogen ion has 8 electrons. What is its charge? Is in an anion or a cation?

-1, anion

12. An oxygen ion has 10 electrons. What is its charge? Is in an anion or a cation?

-2, anion

13. A beryllium ion has 2 electrons. What is its charge? Is in an anion or a cation?

+2, cation

14. A nickel ion has 25 electrons. What is its charge? Is in an anion or a cation?

+3, cation

15. How many electrons are in a fluorine anion with a charge of -1?

10

16. How many electrons are in a calcium ion with a charge of +2?

18

17. How many electrons are in Zn2+?

28

18. How many electrons are in P3-?

18

19. An atom of manganese-54 has a charge of +4. How many protons, neutrons and electrons does it have?

25p, 29n, 21e

20. An atom of silicon-29 has a charge of +4. How many protons, neutrons and electrons does it have?

14p, 15n, 10e

21. An atom of sulphur-33 has a charge of -1. How many protons, neutrons and electrons does it have?

16p, 17n, 17e

22. What is the name of the element that has 51 protons? Antimony

What is its atomic symbol? Sb

How many neutrons does it have? 71

23. What is the name of the element that has 19 protons? Potassium

What is its atomic symbol? K

How many neutrons does it have? 20

24. What is the name of the element that has 2 protons? Helium

What is its atomic symbol? He

How many neutrons does it have? 2

25. What is the name of the element that has 1 proton? Hydrogen

What is its atomic symbol? H

How many neutrons does it have? 0

What is its atomic mass? 1

26. What is the name of the element that has 99 protons? Einsteinium

What is its atomic symbol? Es

How many neutrons does it have? 153

Who was it named in honour of? Albert Einstein

27. What is the name of the element with an atomic mass of 190? Osmium

What is its atomic symbol? Os

How many protons does it have? 76

How many neutrons does it have? 114

28. What is the name of the element with an atomic mass of 251? Californium

What is its atomic symbol? Cf

How many protons does it have? 98

How many neutrons does it have? 153

Where was it discovered? California

29. What is the charge of a copper (Cu) ion with 10 electrons? +19

How many neutrons does a copper ion with 10 electrons have? 35

30. How many electrons does a sulphur (S) ion have if its charge is -2? 18

How many neutrons? 16

31. A zinc atom has a charge of +2. How many protons, neutrons and electrons does it have?

30p, 35n, 28e