

Periodic Table Worksheet

Use the following clues to determine the elements being described and fill in the missing information.

- Each atom of this element has 9 protons and 10 neutrons. The atomic number of the element is (1). The mass number is (2). The number of valence electrons is (3). This element can be found in the (4) family on the periodic table. The valence configuration of this atom is (5). This element is classified as a(n) (6). This element is (7), with a symbol of (8).
1. _____
2. _____
3. _____
4. _____
5. (5) X
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
- This element is a metalloid of Group IV. It has (9) valence electrons on the third energy level. Its name is (10), symbol (11). Its atomic number is (12) and its mass number is (13). This element has (14) neutrons.
21. Sodium
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____
28. _____
29. _____
30. _____
- This is a Halogen and is found in Group (15). It has (16) valence electrons. It has 17 electrons in a neutral atom. The element is (17), symbol (18). It has (19) protons and a mass number of 35. How many neutrons does it have? (20)
- This element is the largest of period three. It is (21), symbol (22). Its atomic number is (23) and it is found in the family (24).
- Each atom of this element has 56 protons and 81 neutrons. The atomic number is (25) and the atomic mass number is (26). The number of valence electrons this atom has is (27) because it is found in Group (28). The element is (29), symbol (30).

6. This is a Group II element with 12 protons. The number of electrons in a neutral atom of this element is (31). It has (32) valence electrons on the (33) energy level. The family name of this element is (34). The mass number is (35) and there are (36) neutrons in an atom of this element.
7. This element has the maximum number of valence electrons in period 4. It is (37), symbol (38), atomic number (39), mass number (40) and it has (41) neutrons. Its family name is (42).
8. This element is a transition metal. It has (43) valence electrons and is found in period 5. It has a nuclear charge of +47. The element is (44), symbol (45) and atomic number (46). Its mass number is (47) and it has (48) neutrons in its nucleus.
9. This element has a mass number of 40 but it only has 2 valence electrons. It is not a transition metal. It is found in Group (49) and has electrons in (50) energy levels. The element is (51), symbol (52) and atomic number (53).
10. This element has the largest atoms of Period 4. The atomic number of this element is (54). The number of protons in one atom of this element is (55). An atom of this element has (56) valence electrons and has (57) completely filled quantum levels. The element is a member of the (58) family. The element is (59), symbol (60).

31. _____
32. _____
33. _____
34. _____
35. _____
36. _____
37. _____
38. _____
39. _____
40. _____
41. _____
42. _____
43. 1
44. _____
45. _____
46. _____
47. _____
48. _____
49. _____
50. _____
51. _____
52. _____
53. _____
54. 37
55. _____
56. _____
57. _____
58. _____
59. _____
60. _____

(nucleus)
charge

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1. Each atom of this element has 9 protons and 10 neutrons. The atomic number of the element is (1). The mass number is (2). The number of valence electrons is (3). This element can be found in the (4) family on the periodic table. The valence configuration of this atom is (5). This element is classified as a(n) (6). This element is (7), with a symbol of (8).
2. This element is a metalloid of Group ¹⁴(9). It has (9) valence electrons on the third energy level. Its name is (10), symbol (11). Its atomic number is (12) and its mass number is (13). This element has (14) neutrons.
3. This is a Halogen and is found in Group (15). It has (16) valence electrons. It has 17 electrons in a neutral atom. The element is (17), symbol (18). It has (19) protons and a mass number of 35. How many neutrons does it have? (20)
4. This element is the largest of period three. It is (21), symbol (22). Its atomic number is (23) and it is found in the family (24).
5. Each atom of this element has 56 protons and 81 neutrons. The atomic number is (25) and the atomic mass number is (26). The number of valence electrons this atom has is (27) because it is found in Group (28). The element is (29), symbol (30).

1. 9
2. 19
3. 7
4. Halogen
- ⑤ X
6. nonmetal
7. fluorine
8. F
9. 4
10. Silicon
11. Si
12. 14
13. 28
14. 14
15. 17
16. 7
17. Chlorine
18. Cl
19. 17
20. 18
21. Sodium
22. Na
- ②③ 11
24. alkali
25. 56
26. 137
27. 2
28. Group 2
29. Barium
30. Ba

6. This is a Group II element with 12 protons. The number of electrons in a neutral atom of this element is (31). It has (32) valence electrons on the (33) energy level. The family name of this element is (34). The mass number is (35) and there are (36) neutrons in an atom of this element.
7. This element has the maximum number of valence electrons in period 4. It is (37), symbol (38), atomic number (39), mass number (40) and it has (41) neutrons. Its family name is (42).
8. This element is a transition metal. It has (43) valence electrons and is found in period 5. It has a nuclear charge of +47. The element is (44), symbol (45) and atomic number (46). Its mass number is (47) and it has (48) neutrons in its nucleus.
9. This element has a mass number of 40 but it only has 2 valence electrons. It is not a transition metal. It is found in Group (49) and has electrons in (50) energy levels. The element is (51), symbol (52) and atomic number (53).
10. This element has the largest atoms of Period 4. The atomic number of this element is (54). The number of protons in one atom of this element is (55). An atom of this element has (56) valence electrons and has (57) completely filled quantum levels. The element is a member of the (58) family. The element is (59), symbol (60).

31. 12
32. 2
33. 3rd
34. Group 2 Metals
35. 24
36. 12
37. Krypton
38. Kr
39. 36
40. 84
41. 48
42. noble gases
43. 1
44. Silver
45. Ag
46. 47
47. 108
48. 61
49. Group 2 Metals
50. 4
51. Calcium
52. Ca
53. 20
54. 37
55. 37
56. 1
57. 4 completely filled
58. alkali
59. Rubidium
60. Rb