

AP WORKSHEET 00ABCD: ANSWERS

1.

- (a) Physical
- (b) Chemical
- (c) Physical

2. 0.03682 mL

3.

- (a) Qualitative
- (b) Quantitative
- (c) Quantitative
- (d) Qualitative

4. Law of conservation of energy (*many other answers are possible*).

5.

- (a) 3.58×10^{13}
- (b) 8.21×10^{-9}

6.

- (a) 2.163×10^5
- (b) 4.001×10^6
- (c) 3.682
- (d) 7.252
- (e) 375.7
- (f) 21.86

7.

- (a) 750000 mg
- (b) 1.5×10^{-3} km
- (c) 2.39 kg
- (d) 520 m
- (e) 65000 g

8.

Kelvin	Fahrenheit	Celsius
200.	-99.7	-73.2
23.0	-418	-250.
0.000	-460	-273
355	180.	82.2
318	113	45.0
500.	440	227
450	350.	177
370	207	97.0
303	86.0	30.0

9. 8.55 %

10. Accuracy refers to how close the measured value is to the actual value of the quantity. Precision refers to how close two or more measurements of the same quantity are to one another.

11. Crookes → Cathode Ray, Millikan → Oil Drop, Rutherford → Gold Foil

12.

(a) Yes, same protons (same elements) but different mass (different neutrons)

(b) No, different protons (different elements)

13. (a) P = 79, N = 92, E = 79

(b) P = 79, N = 103, E = 79

(c) P = 35, N = 44, E = 36

14. Calcium sulfide, lead(II) nitride, aluminum phosphide, perbromic acid, ammonium carbonate, $\text{Ca}(\text{CH}_3\text{CO}_2)_2$, PCl_5 , $\text{Sr}(\text{BrO}_2)_2$, KHCO_3 , HClO_3