

Answer the questions on a separate paper. Show all your work.
---

Name: \_\_\_\_\_

1. What are the names of the following elements?
  - (a) (1 point) Na
  - (b) (1 point) Pb
  - (c) (1 point) N
  - (d) (1 point) K
  - (e) (1 point) Fe
2. Reduce the following fractions:
  - (a) (1 point)  $\frac{120}{400}$
  - (b) (1 point)  $\frac{12}{74}$
  - (c) (1 point)  $\frac{x^2-1}{x+1}$
  - (d) (1 point)  $\frac{2x^2+4x+2}{x^2-1}$
3. Convert the following measurements:
  - (a) (1 point) how many inches in 3 yards?
  - (b) (1 point) how many tablespoons in one gallon?
  - (c) (1 point) how many pounds in 373 ounces?
  - (d) (1 point) how many kilograms in 1,000,000,000 grams?
  - (e) (1 point) how many centimeters in 375 meters?
4. (5 points) What is  $12.0 \times 3.21$ ? Choose the correct answer:
  - A. 38
  - B. 38.5
  - C. 38.52
  - D. 38.520
  - E. 38.5200
5. (5 points) What is  $12.0 + 3.21$ ? Choose the correct answer:
  - A. 15.2

- B. 15.21
- C. 15.210
- D. 15.2100
- E. 15.21000

6. (1 point) How much wood would a woodchuck chuck if a woodchuck could chuck wood?
7. (5 points) The boiling point of water in Seattle is  $212^{\circ}\text{F}$ , the boiling point of water in Moscow is  $206^{\circ}\text{F}$ . Why is it lower in Moscow?
8. Give definitions for the following:
- (a) (1 point) heat
  - (b) (1 point) electrolyte
  - (c) (1 point) acid
  - (d) (1 point) base
  - (e) (1 point) energy
9. Solve the following equations for the named variable:
- (a) (1 point)  $12 = \frac{2}{5}x$  (solve for  $x$ )

(b) (1 point)  $3t - 17 = 22$  (solve for  $t$ )

(c) (1 point)  $\frac{y^2-1}{y+1} = 0$  (solve for  $y$ )

(d) (1 point)  $5\beta + 12 = 2\beta$  (solve for  $\beta$ )

(e) (1 point)  $\frac{2\theta-1}{2\theta+1} = 3$  (solve for  $\theta$ )

10. (5 points) What happens when you leave an ice tray full of water the deep freezer for several days? Choose all the correct answers.
- A. the water gets warmer
  - B. the molecules in the water slow down
  - C. the water undergoes a physical change from liquid to gas
  - D. the water changes phase from liquid to solid
  - E. the water undergoes a chemical change from liquid to solid
11. (5 points) Which of the following is an example of a chemical reaction?
- A. a piece of wood burns in a bonfire
  - B. a piece of steak is fed into a meat grinder
  - C. one gram of table salt is dissolved into a glass of water
  - D. a pan of water is brought to a boil, and left boiling until it is dry
  - E. vinegar and baking soda are combined in a cup and they produce a whole lot of foam

This exam has 11 questions for a total of 50 points.