NAME _____ DATE _____ PERIOD _____

8-3 Practice

Scientific Notation

Express each number in standard notation.

1. 7.3×10^7
2. 2.9×10^3
3. 9.821×10^{12}
4. 3.54×10^{-1}
5. 7.3642×10^4
6. 4.268×10^{-6}

PHYSICS Express the number in each statement in standard notation.

7. An electron has a negative charge of 1.6×10^{-19} Coulomb.
8. In the middle layer of the sun's atmosphere, called the chromosphere, the temperature averages 2.78×10^4 degrees Celsius.

Express each number in scientific notation.

9. 915,600,000,000
10. 6387
11. 845,320
12. 0.00000000814
13. 0.00009621
14. 0.003157
15. 30,620
16. 0.0000000000112
17. 56×10^7
18. 4740×10^5
19. 0.076×10^{-3}
20. 0.0057×10^3

Evaluate. Express each result in scientific and standard notation.

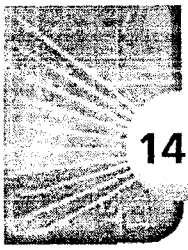
21-32 ON LOOSE LEAF

LOOK

21. $(5 \times 10^{-2})(2.3 \times 10^{12})$
22. $(2.5 \times 10^{-3})(6 \times 10^{15})$
23. $(3.9 \times 10^3)(4.2 \times 10^{-11})$
24. $(4.6 \times 10^{-4})(3.1 \times 10^{-1})$
25. $\dfrac{3.12 \times 10^3}{1.56 \times 10^{-3}}$
26. $\dfrac{6.72 \times 10^3}{4.2 \times 10^8}$
27. $\dfrac{1.17 \times 10^2}{5 \times 10^{-1}}$
28. $\dfrac{1.82 \times 10^5}{9.1 \times 10^7}$
29. $\dfrac{1.68 \times 10^4}{8.4 \times 10^{-4}}$
30. $\dfrac{2.015 \times 10^{-3}}{3.1 \times 10^2}$

31. **BIOLOGY** A cubic millimeter of human blood contains about 5×10^6 red blood cells. An adult human body may contain about 5×10^6 cubic millimeters of blood. About how many red blood cells does such a human body contain?

32. **POPULATION** The population of Arizona is about 4.778×10^6 people. The land area is about 1.14×10^5 square miles. What is the population density per square mile?



NAME _____ DATE _____ PERIOD ____

14-1 Practice

Counting Outcomes

{WORK ON THIS SHEET OK IF NEAT !}

Draw a tree diagram to show the sample space for each event. Determine the number of possible outcomes.

1. dining at an Italian, Mexican, or French restaurant, for lunch, early bird (early dinner special), or dinner, and with or without dessert

Find the value of each expression.

2. 5!
3. 8!
4. 10!
5. 12!

6. How many different vacation plans are possible when choosing one each of 12 destinations, 3 lengths of stay, 5 travel options, and 4 types of accommodations?

7. How many different ways can you arrange your work if you can choose from 7 weekly schedules, 6 daily schedules, and one of 3 types of duties?

8. How many different ways can you treat a minor cut if you can choose from 3 methods of cleansing the cut, 5 antibiotic creams, 2 antibacterial sprays, and 6 types of bandages?

9. **TESTING** A teacher gives a quick quiz that has 4 true/false questions and 2 multiple choice questions, each of which has 5 answer choices. In how many ways can the quiz be answered if one answer is given for each question?

CLASS RINGS Students at Pacific High can choose class rings in one each of 8 styles, 5 metals, 2 finishes, 14 stones, 7 cuts of stone, 4 tops, 3 printing styles, and 30 inscriptions.

10. How many different choices are there for a class ring?

11. If a student narrows the choice to 2 styles, 3 metals, 4 cuts of stone, and 5 inscriptions (and has already made the remaining decisions), how many different choices for a ring remain?