## Tables, Pictographs, Bar Graphs, Line Graphs, and Circle Graphs

| $\begin{gathered} \text { ACTUAL } \\ \text { TEMPERATURE } \\ \left({ }^{\circ} \mathrm{F}\right) \end{gathered}$ | RELATIVE HUMIDITY |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 10\% | 20\% | 30\% | 40\% | 50\% | 60\% | 70\% | 80\% | 90\% | 100\% |
|  | APPARENT TEMPERATURE ( ${ }^{\circ}$ ) |  |  |  |  |  |  |  |  |  |
| $75^{\circ}$ | 75 | 77 | 79 | 80 | 82 | 84 | 86 | 88 | 90 | 92 |
| $80^{\circ}$ | 80 | 82 | 85 | 87 | 90 | 92 | 94 | 97 | 99 | 102 |
| $85^{\circ}$ | 85 | 88 | 91 | 94 | 97 | 100 | 103 | 106 | 108 | 111 |
| $90^{*}$ | 90 | 93 | 97 | 100 | 104 | 107 | 111 | 114 | 118 | 121 |
| $95^{\circ}$ | 95 | 99 | 103 | 107 | 111 | 115 | 119 | 123 | 127 | 131 |
| $100^{*}$ | 100 | 105 | 109 | 114 | 118 | 123 | 127 | 132 | 137 | 141 |
| $105^{*}$ | 105 | 110 | 115 | 120 | 125 | 131 | 136 | 141 | 146 | 151 |

Which temperature-humidity combinations give an apparent temperature of $100^{\circ}$ ?

At an actual temperature of $95^{\circ}$, what relative humidities give an apparent temperature above $100^{\circ}$ ?

At a relative humidity of $50 \%$, what actual temperatures give an apparent temperature above $100^{\circ}$ ?

At an actual temperature of $85^{\circ}$, what is the difference in humidities required to raise the apparent temperature from $94^{\circ}$ to $108^{\circ}$ ?

$\Delta=12,000$ fires

Whats the average number of wildfires over this six year span?


## Suppose 1027 people were surveyed. How many enjoyed the outdoors for each of the given reasons?

## Enjoying the Outdoors



SOURCES: Open Air Magozine; International Communications Research
44. The number of games won over four years for three teams is shown on the graph below.


Which statement is true based on this information?

A Team 3 always came in second.
B Team 1 had the best average overall.
C Team 1 always won more games than Team 3.
D Team 2 won more games each year than in the previous year.
45. The table below shows the number of real estate transactions by type for a city.

Real Estate Transactions

| Type of Property Sold | Number of Sales |
| :--- | :---: |
| Single-Family Residence | 157 |
| Condo/Townhouse | 17 |
| Mobile Home | 6 |
| Multi-Family | 2 |
| Commercial | 15 |
| Land | 255 |
| Total | $\mathbf{4 5 2}$ |

Based on the information in the table, which statement is true?

A More than half of the sales were single-family residences.
B More sales occurred for land than in all other areas combined.

C The number of condo/townhouse sales was more than $10 \%$ of the total sales.
D The number of mobile home and multi-family sales combined was twice the number of commercial sales.

. Based on the bar graph shown above, which of the following conclusions is true?

A Everyone ran faster than 6 meters per second.
B The best possible rate for the 100 -meter dash is 5 meters per second.
C The first-place runner was four times as fast as the fourth-place runner.
D The second-place and third-place runners were closest in time to one another.
159. The table below shows the flight times from San Francisco (S.F.) to New York (N.Y.).

| Leave <br> S.F. Time | Arrive <br> N.Y. Time |
| :---: | :---: |
| 8:30 A.M. | 4:50 P.M. |
| 12:00 noon | 8:25 р.M. |
| 3:30 P.M. | 11:40 P.M. |
| 9:45 p.M. | 5:50 A.M. |

## Which flight takes the longest?

A The flight leaving at 8:30 A.M.
B The flight leaving at 12:00 noon
C The flight leaving at 3:30 P.M.
D The flight leaving at 9:45 P.M.

## Practice

1) There are 6 people in a race. In how many ways can they finish first, second or third ?
2) A golfer has 4 different hats, 3 gloves and 2 pairs of shoes to pick from for his round of golf. In how many ways can he make his choices?
3) In Canada, postal codes consist of 6 characters -- three letters and three digits. Each postal code starts with a letter and alternates with a digit.
a. How many postal codes are there ?
b. How many start with the letter S ?
c. How many start with the letter $S$ and end in the digit 8 ?
d. How many start with the letter S , digit 6 and NO letter or digit is repeated ?
4) Using the digits $\{1,2,3,4,5\}$, how many positive three digit integers can be made if:
a. there are NO restrictions
b. it is odd and repetition is allowed ?
c. it is odd and repetition is NOT allowed ?
d. Repeat question $\mathrm{a}, \mathrm{b}$ and c if the digits you can choose are $\{0,1,2,3,4,5\}$.
5) How many positive even three-digit integers less than 400 can be formed from the digits $\{0,1,2,3,4,5\}$ if:
a. repetition is allowed ?
b. No digit is repeated ?
6) You are ordering dinner at a restaurant. How many ways can you order a meal if you have two choices for a drink ( coffee or tea ), three main courses to choose from (chicken, beef, or fish ) and two desserts ( pie or cake ) ?
7) Television stations in Canada usually have call letters that are 4 letters long and begin with the letter C. If the CRTC made this a law in Canada, then how many television stations could the CRTC license ?
8) Some license plates consist of 3 letters followed by 3 numbers. How many different license plates are possible if:
a. if there are NO Restrictions
b. if the letters must be DIFFERENT
c. if the letters are different and the first digit can't be 0
9) An ice cream parlor features 64 flavors and 20 toppings, in 3 sizes. How many different sundaes can be made?
10) How many EVEN two digit numbers are there?
11) How many EVEN two digit numbers can be made using the digits $1,2,3,4,5,6,7,8$ ?
a. Repetitions are not allowed
b. Repetitions are allowed
12) How many two digit numbers can be formed using the digits $0,2,4,6,8$ if:
a. Repetitions are allowed
b. Repetitions are not allowed
13) How many ODD four digit numbers can be made from all of the digits, if:
a. Repetition is allowed
b. Repetition is not allowed
14) In how many ways can all of the letters of the word PROBLEM be arranged?
15) In how many ways can all of the letters of the word PROBLEM be arranged if the arrangement must start with a consonant and end in a vowel?
16) How many ways can the letters in the word PENCIL be arranged?
17) If there are four different types of cookies, how many ways can you eat all of them?
18) If three albums are placed in a multi-disc stereo, how many ways can the albums be played?
19) How many ways can you order the letters in KEYBOARD if $K$ and $Y$ must always be kept together?
20) How many ways can the letters in OBTUSE be ordered if all the vowels must be kept together?
21) How many ways can 4 rock, 5 pop, \& 6 classical albums be ordered if all albums of the same genre must be kept together?

HW: MC 4,10,20

