SCIENTIFIC METHOD

Name _____

Put the following steps of the scientific method in the proper order.

___2___ Research the problem.

___5___ Observe and record.

___3___ Make a hypothesis.

___1___ Identify the problem.

___6___ Arrive at a conclusion.

___4___ Test the hypothesis.

Match the following terms with the correct definition.

___b___ 1. hypothesis

___f___ 2. control

___g___ 3. variable

___a___ 4. experiment

___d___ 5. conclusion

___e___ 6. theory

___c___ 7. data

a) organized process used to test a hypothesis

b) an educated guess about the solution to a problem

c) observations and measurements recorded during an experiment

d) a judgment based on the results of an experiment

e) a logical explanation for events that occur in nature

f) used to show that the result of an experiment is really due to the condition being tested

g) factor that changes in an experiment
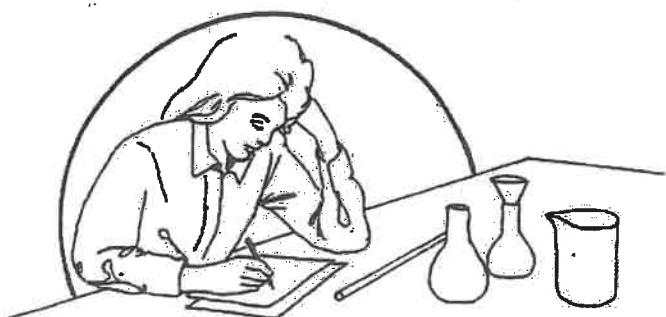
SCIENTIFIC NOTATION / SIGNIFICANT FIGURES

Scientific Notation

Use the space provided to write the given values in Scientific Notation, be sure to only include significant figures in your answer.

1.) 678.9 6.789×10^2

2.) 0.009107 9.107×10^{-3}

3.) 18 1.8×10^1

4.) 1997.82 1.99782×10^3

5.) 0.00000602 6.02×10^{-6}

Re-write the values that are expressed in Scientific Notation into their original form.

6.) 4.3×10^{-4} 0.00043

7.) 1×10^0 1

8.) 2.809×10^5 280900

9.) 1.008×10^{-8} 0.00000001008

10.) 1.5×10^{-6} 0.0000015

Identify the number of significant figures in the following values.

11.) 467221   6

12.) 0.000160008   6

13.) 37.7   3

14.) 1.00000   6

15.) 2.00022   6

16.) 0.000015   2

17.) 80000008   8

18.) 100000000000000   1

19.) 1111110   6

20.) 7700770   6

Report the answer to the following number of problems with a.) the correct number of significant figures, then b.) convert the answer to scientific notation as well.

21.) 67.34×0.894 a.) 60.2   b.) 6.02×10^1

22.) $54.9801 \div 17.5$ a.) 3.14   b.) 3.14×10^0

23.) $18.881 + 76.3$ a.) 95.2   b.) 9.52×10^1

24.) $21.53 - 7.2$ a.) 14.3   b.) 1.43×10^1

25.) $9885 - 34.22$ a.) 9851   b.) 9.851×10^3

26.) $12.04 + 17.9$ a.) 29.9   b.) 2.99×10^1

27.) $555.2 + 0.00381$ a.) 555.2   b.) 5.562×10^2

28.) 51.09×3.3 a.) 170   b.) 1.70×10^2

29.) 1.001×4.004 a.) 4.008   b.) 4.008×10^0

30.) $622 + 799$ a.) 1421   b.) 1.421×10^3

The data table below shows how well enzymes function at different temperatures.

| Temperature °C (x)	Enzyme Activity (y)
0	0
20	10
30	15
40	20
50	8
60	5
70	0

1. What is the independent variable?

   Temperature

2. What is the dependent variable?

   Enzyme Activity

3. Using the information in the data table, construct a line graph

Enzyme Activity vs Temperature
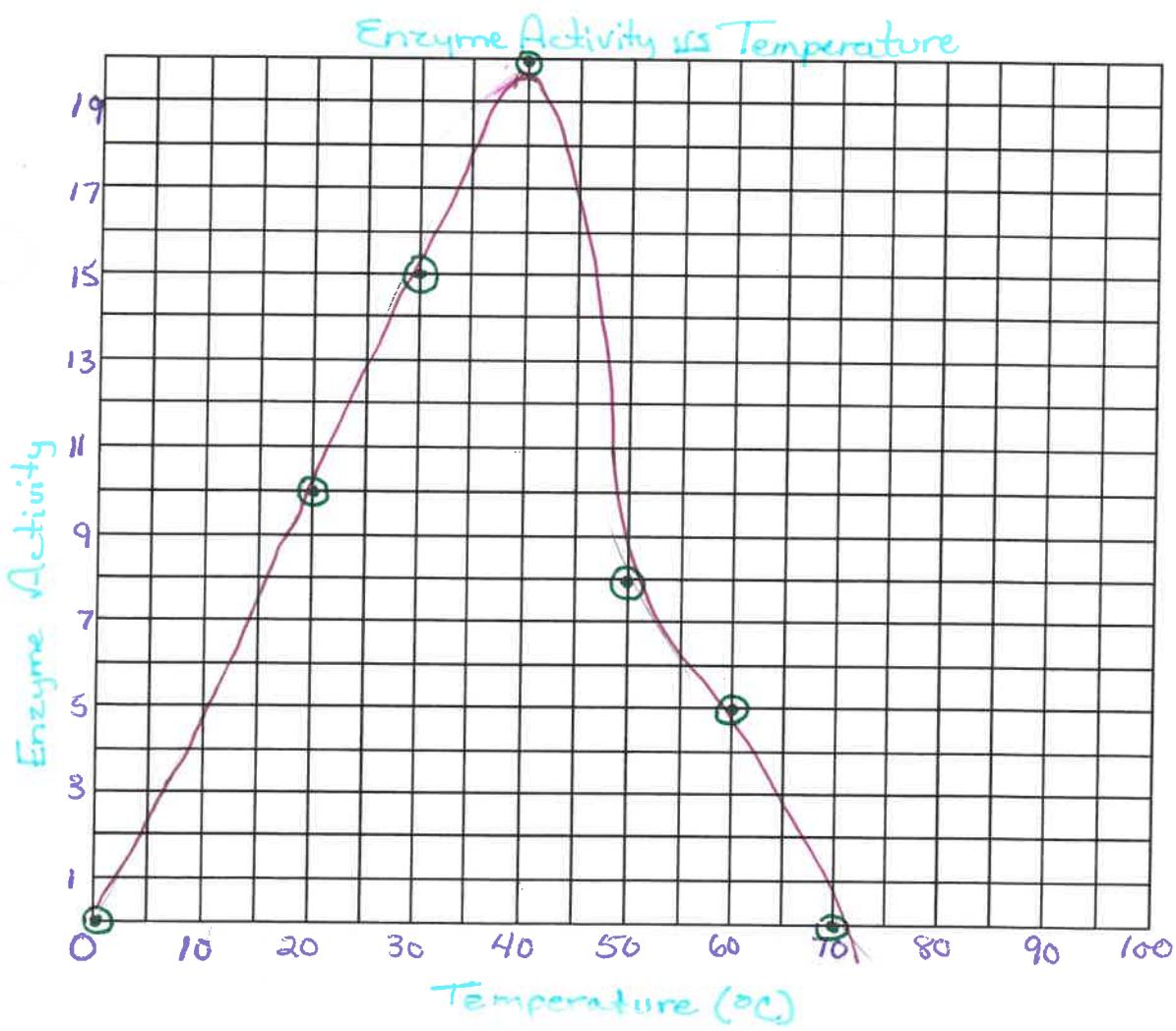
4. What is the optimum temperature for this enzyme?

   40°C