Q1: the length , L cm of a simple pendulum is directly proportional to the square of its time , T sec . A pendulum with a length of 220.5 cm has a period of 3s

1. Find an equation connecting L and T
2. Find the length of pendulum which has a period of 5s
3. Draw the graph of l and T

Q2: given that y is directly proportional to X^3 . copy and complete the table

X	3	4		6	
Y			375	648	1029

Q3 if w is inversely proportional to v^3 and w=45 when v=9

1. Find the value of w when v=8
2. Find equation
3. Calculate the value of v when w=62

Q4: the demand of the product gets high when the quantity of that product becomes less find out the relation btw the demand and the quantity of the product , explain it which type of proportion is used in it

Q5 simplify the following

1. p/2q **X** 4pq/t
2. 3/m+4 - 4/m
3. $2x^2$+x-15/ax+3a-2bx-6b
4. (5+3)(5-3)
5. X^2-25/x^2-2x-35

Q6: make y the subject of the formula

$H^2=x^2+y^2$

Q7: simplify x^3+5x^2/x^2-25 , giving your answer in a single fraction

Q8: s= ut + $1at^2/2$ find the value of s when u=5.2, t=7 and a=1.6

Q9: simplify the following

1. $(ab^2)^3$ x $(2a^2b)^3$
2. $16g^8h^7$ / $(-2g^3h^2)^3$
3. $(g^2/h^3)^6$ / $(-3g^5/2h^2)^3$
4. $(a^{-2}b^3)^{1/3}$ x $(a^4b^{-5})^{1/2}$
5. $e^{-1/3}f^{-1/4}$ / $(e^2f^{=1/3})^{-2}$
6. $(3c)^0$ / $(-4\ g^3\ h^{-2}\ )^2$

Q10: solve each of the following equations

1. $9^c=243$
2. $11^a=1331$

3. $2^b=1/128$