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 400 cm has a period of 4s

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 inversly proportional to X3 . copy and complete the table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 9 |  |  | 3 |  |
| Y |  | 5 | 300 | 90 | 69 |

Q3: if z2 is directly proportional to x3 and z=8 when x= 4 , find the values of z= when x=9

Q5: simplify the following

* 1. 2x2**+**x**-**15**/**ax**+**3a**-**2bx**-**6b
  2. a2-ab-ac+bc/a2+ab-ac-bc

Q6: make the letter subject of the formula

* 1. c/d=e+h (c)
  2. (H-K)1/3=m (H)

Q7: express the following as a fraction in its simplest form

1). C-1/3c-7 – 1/14-6c

2) h+k/p-q + 3h+k/8q-8p

Q8: simplify the following

1. (a-2b3)1/3 x (a4b-5)1/2
2. )6/()3
3. 9c=243

Q9: factorize the following expressions

1. 35m2n + 5mn – 30n
2. -3b2 + 76b - 25

Q10: simplify the following

1. √1700 /√20
2. (√6 − 3√2) (√6 + 3√2)

d.

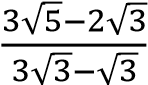
√

6

𝑋

√

8

1. 2√8 + 5√3 − 3√3
2. 

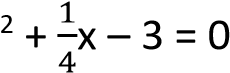
Q11: solve the following equation and find the completing squares

1. (7 − 3𝑥)(𝑥 + 2) = 0
2. X(x – 3) = 5x + 1
3. (x + 2) ( x – 5)= 4x

Q12: express each of the following in the form of (a + b)2 + b

1. X2 + 3x – 2
2. Xx

Q13: solve each of the following equations, giving your answer correct to 2 decimal places a. X2 - 12x + 9 = 0

1. X
2. X2 – 5x – 5=0

Q14: in STU ,ST=3 cm ,TU=4.24cm and SU=3cm ,is STU a right-angled triangle?

T



S U

Prove it by using theorem

Q1 find the value of the following in each of the following right triangle



A cm



15

cm



A cm

15cm



20 cm



10cm

Q2 find the value of each of the following fig





A



cm



34



cm



30 cm