The law connecting friction F and load L for an experiment is of the form F=aL+b, where a and b are constants. When F=5.6, L=8.0 and when F=4.4, L=2.0. Find the values of a and b and the value of F when L=6.5

ANS

F=aL+b

5.6=8a+b

4.4=2a+b

8a+b=5.6

-

2a+b=4.4

6a = 1.2

a = 0.2

8a=b=5.6

8(0.2) +b=5.6

1.6b=5.6

b=5.6-1.6

b=4

F=aL+b

F=(0.2\*6.5)+4

F=1.3+4

**F=5.3**