"Laws of log"

* $\log a \times b = \log a + \log b$

$\log 5 \times 2 = \log 5 + \log 2$

** $\log \frac{a}{b} = \log a - \log b$

$\log \frac{5}{3} = \log 5 - \log 3$

$\log a \times b \times c = \log a + \log b + \log c$

*** $\log a^n = n \log a$

$\log 2^3 = 3 \log 2$

Ex 2-6

Q1

Let $x = 57.86 \times 4.385$

253.71

(i) Taking log on both sides

$\log x = \log 57.86 \times 4.385$

$= \log 57.86 + \log 4.385$

$= 1.7624 + 0.6420$

$\log x = 2.4044$

7619
+ 5
7624

6415
+ 5
6420

$2+1=3$

$x = \text{Antilog } 2.\overline{4044}$

$x = 2535 + 2$

$\boxed{x = 253.7}$

A

Q1 (ii)

$x = 25.753 \times 0.5341 \times 490.8$

Taking log on both sides

$\log x = \log 25.753 \times 0.5341 \times 490.8$

$= \log \overline{2}_{\wedge}5.753 + \log 0.\overline{5}_{\wedge}341 + \log \overline{4}_{\wedge}90.8$

$= 1.4108 + \overline{1}.7276 + 2.6909$

$= 4.1017 - 1.7276$

$= 2.3741$

6750.79

6750.0

4099
+9
4108

7275
+1
7276

6902
+7
6909

$x = \text{Antilog } 2.3741$

$x = 236 + 1$

$x = 236.1$

A