Calculate Harmonic mean for the following series:

   (1) 10,20,25,40,50

ANSWER:

Harmonic mean $= n \Big/ 1/x_1 + 1/x_2 + 1/x_3 + 1/x_4 + 1/x_5$

$$= 5 \Big/ 1/10 + 1/20 + 1/30 + 1/40 + 1/50$$

$$= 5 \times 200 / 47 = 26.1$$

   (2)

X:	0-10	10-20	20-30	30-40	40-50
F:	8	15	20	4	3

ANSWER:

Harmonic mean :

Class	Mid value (x) (2)	f	$\frac{f}{x}$
0 - 10	5	8	1.6
10 - 20	15	15	1
20 - 30	25	20	0.8
30 - 40	35	4	0.1143
40 - 50	45	3	0.0667
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--	--	$n = 50$	$\sum\left(\frac{f}{x}\right) = 3.581$

$$\text{HM of X} = \frac{n}{\sum\left(\frac{f}{x}\right)}$$

$$= \frac{50}{3.581}$$

$$= 13.9628$$