$13x^2 - 118x + 240 = 0$

2	3120
2	1560
2	780
2	390
3	195
5	65
13	13
	1

Rough Work

240×13

$31\,20$

2	328
2	164
2	82
2	41
5	205
41	41
	1

$3120 = 2 \times 2 \times 2 \times 2 \times 3 \times 5 \times 13$

$= (2 \times 3 \times 13) \times (2 \times 2 \times 2 \times 5)$

$= 78 \times 40$ $\quad (78 + 40 = 118)$

Now $13x^2 - 118x + 240 = 0$

~~$13x^2 - 520x + 6x + 240 = 0$~~

$13x^2 - 78x - 40x + 240 = 0$

$13x(x - 6) - 40(x - 6) = 0$

$(13x - 40)(x - 6) = 0$

$13x - 40 = 0$

$x = \frac{40}{13} = 3\frac{1}{13}$ Ans

$x - 6 = 0 \Rightarrow x = 6$