7. 3 | 1323
3 | 441
3 | 147
7 | 49
7 | 7
x

$= 3^3 \times 7^2$

So, the least number by which 1323 should be multiplied to is 7 to get a perfect cube $(3 \times 7 = 21)^3$.

8. 2 | 8768
2 | 4384
2 | 2192
2 | 1096
2 | 548
2 | 274
137

$= 2^6 \times 137$

So, 137 should be divided from 8768 to get a perfect cube. (4^3)

9. 3 | 27783
3 | 9261
3 | 3087
3 | 1029
7 | 343
7 | 49
7 | 7
x

$= 3^4 \times 7^3$

So, 9 is multiplied to 27783 to get a perfect cube. (63^3)

10. 2 | 8640
2 | 4320
2 | 2160
2 | 1080
2 | 540
2 | 270
135

3 | 135
3 | 45
3 | 15
5 | 5
x

$= 2^6 \times 3^3 \times 5$

So, 5 should be divided from 8640 to get a perfect cube (12^3)

11.

3	77175
3	25725
5	8575
5	1715
7	343
7	49
7	7
	X

$= 3^2 \times 5^2 \times 7^3$

So, 15 is the smallest number by which 77175 should be multiplied to get a perfect cube $(105)^3$.