Never blindly trust anything.

If you find any mistake, kindly correct it and if possible inform in our grp too.

Thank you
18BCE120.

Tutorial -2

1. a. $b^*(ab)^*a^*$ aab. or abb

b. $(a^*+b^*)(a^*+b^*)(a^*+b^*)$ abab or baba

c. $a^*(baa^*)^*b^*$ bba

d. $b^*(a+ba)^*b^*$ abba

2. $r = a^*+b^*$, $s = ab^*+ba^*+b^*a+(a^*b^*)$

① to r but not to s. aa

② to s but not to r ab

③ to s and to r a , b (both possible)

④ not to s and not to r aba.

3. 1. exactly two a's $b^*ab^*ab^*$
2. at least 1 $(a+b)^*a(a+b)^*a(a+b)^*$
3. don't end with ab
$\Lambda + a + (a+b)^*a + (a+b)^*bb$
4. begin or end with aa or bb
$(aa+bb)(a+b)^* + (a+b)^*(aa+bb)$
5. not containing substring aa
$(b+ab)^*(\Lambda+a)$ or $(\Lambda+a)(b+ba)^*$

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a. $(11^*2)+1$ or 1^+2+1

b. $(0+1)$

c. ~~a^{2n} , $(n \geq 1)$~~ → $aa(aa)^*$ NOT SURE

~~d. $((a+b)(a+b)(a+b))^* +$~~

~~$((a+b)(a+b)(a+b)(a+b)(a+b))^*$~~

~~or~~

~~$((a+b)(a+b) \cdot ((a+b)\cdot(a+b)\cdot + (a+b)\cdot(a+b)\cdot(a+b)))^*$~~

→ $(aaa)^* + (aaaaa)^*$

$\{a^x \mid x$ divisible by 3 or 5$\}$