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Kelas : IT 20 B1
Matkul : Matematika Diskrit

1. (a) Jika n = 1

$3^{2n} + 22n + 2$ Harus dibagi 5

$= 3^{2.1} + 22.1 + 2$

$= 9 + 22 + 2 = 33$ tidak terbukti

(b) $\frac{n}{2}\ 2 = -\left(\frac{-2+n+2}{2A}\right).1$

$n = 1.\frac{1}{2} = -\left(\frac{-2+1+2}{2}\right)1$

$\frac{1}{2} = -(-2 + \frac{3}{2})$

$\frac{1}{2} = -(\frac{-4+3}{2})$

$\frac{1}{2} = -(\frac{-1}{2})$

$\frac{1}{2} = \frac{1}{2}$

$n = 2 = \frac{2}{2}\ 2 = -\left(\frac{-2+2+2}{2^2}\right)1$

$\frac{2}{4} = -(-2 + \frac{4}{4})'$

$\frac{1}{2} = -(\frac{-8+4}{4})'$

$\frac{1}{2} = (-\frac{4}{4})$

$\frac{1}{2} = 1$

(c) Jika P(n) @ $1^3 + 2^3 + 3^3 + 4^3 + \dots + n^3 = \frac{n^2(n+1)^2}{4}$

$\therefore P(1) = \frac{1^2(1+1)^2}{4}$

$= \frac{1}{4} = 0,25$ //

2. $\frac{(n+1)!}{(n+1-3)!} = \frac{n!}{(n-4)!} = n > 4$

$\frac{(n+1)!}{(n-2)!} = \frac{n!}{(n-4)!}$

$\frac{(n+1)!}{n!} = \frac{(n-2)!}{(n-4)!}$

$n+1 = (n-2)(n-3)$

$n^2 - 5n + 6 + 1 = 0$

$(n-5)(n-1) = 0$

$n = 5 \quad n = 1$ (TM)

Jaya para Jan Matematika

3A bersaudara. $P(8,3) = 8!/3! = 6.720$

2M, 3A, dan 2T

$$P = (10,2,3,2) = \frac{10!}{2!\,3!\,2!} = 151.200$$

(c) $P!/(n-5)! = 10.P!/(n-4)!$

$10.(n-5)! = (n-4)!$

$10.(n-5)! = (n-4)!(n-5)!$

$10 = n-4$

$14 = n$