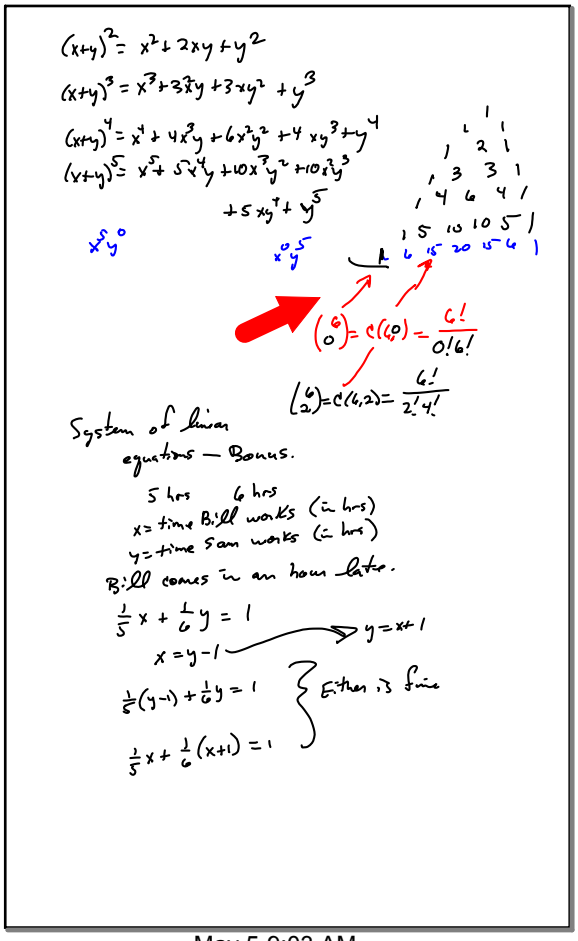
$(x+y)^2 = x^2+2xy+y^2$
$(x+y)^3 = x^3+3x^2y+3xy^2+y^3$
$(x+y)^4 = x^4+4x^3y+6x^2y^2+4xy^3+y^4$
$(x+y)^5 = x^5+5x^4y+10x^3y^2+10x^2y^3$
$+5xy^4+y^5$
x^5y^0
x^0y^5
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1
$\binom{6}{0} = C(6,0) = \frac{6!}{0!6!}$
$\binom{6}{2} = C(6,2) = \frac{6!}{2!4!}$
System of linear equations — Bonus.
5 hrs 6 hrs
x = time Bill works (in hrs)
y = time Sam works (in hrs)
Bill comes in an hour later.
$\frac{1}{5}x + \frac{1}{6}y = 1$
$x = y-1$
$y = x+1$
$\frac{1}{5}(y-1) + \frac{1}{6}y = 1$
$\frac{1}{5}x + \frac{1}{6}(x+1) = 1$
Either is fine

May 5-9:03 AM