

*** You will have a real work sample after the Thanksgiving holiday - are you prepared?!?***

- Did you interpret the problem?
- Did you represent it with equations and use a reasonable strategy?
- Did you communicate clearly?
- Is it accurate?
- Did you reflect and check?

After graduation, you are offered two jobs. Cedar Grove Associates offered to start you at \$30,000 with a 6% increase per year. Maple Grove Associates offered to start you at \$40,000 with a \$1200 raise per year. Which company would be the better option to choose if you planned on working there for at least 20 years?

I will write a model for the salary at each job to compare which job is a better option. I will compare the salaries at 20 years.

Cedar Grove	Maple Grove
$C(x) = 30000(1.06)^x$	$M(x) = 40000 + 1200x$
$C(0) = 30000$	$M(0) = 40000$
Cedar grove starts at \$30,000	Maple grove starts at \$40,000
$C(20) = 30000(1.06)^{20}$ $= 96214.06$	$M(20) = 40000 + 1200(20)$ $= 64000$

After 20 years, Cedar Grove will pay much more than Maple Grove, \$96,214.06 compared to \$64,000. I would choose Cedar Grove. To reflect, I'll make a table for each salary (on back)

$x = \# \text{ of years}$, $M = \text{Maple Grove Salary}$
 $C = \text{Cedar Grove Salary}$

x	M	C
0	40000	30000
1	41200	31800
2	42400	33708
3	43600	35730
4	44800	37874
5	46000	40147
6	47200	42556
7	48400	45109
8	49600	47815
9	50800	50684
10	52000	53725

After the 10th year, Cedar Grove
pays more than Maple Grove.
Thus, Cedar Grove is better than
Maple Grove for my job.