

7.1.3 # 30 - 41 (skip 39)

7-41 $P(\text{heads}) = \frac{1}{2}$

$P(\text{tails}) = \frac{1}{2}$

7-30 a.) Principal = \$1000

bank = 8% Simple
account = 8% Compound

# of years	Amount of \$
0	1000.00
1	1080.00
2	1,166.40
3	1,259.71
4	1,360.49

a.) The account is earning \$80 per year.

b.) $\frac{1320}{1000} = 1.32$ The balance increased by 32%.

c.) # of years | Amount of \$

0	1000.00
1	1080.00
2	1166.40
3	1259.71
4	1360.49

There is \$1,166.40 in the account after 2 years because the interest is calculated from the previous years balance.

The multiplier is 1.08.

e.) We would choose the credit union because it has higher percent increase.

d.) $\frac{1360.49}{1000} \approx 1.36$ The account balance had grown by 36%.

17-31

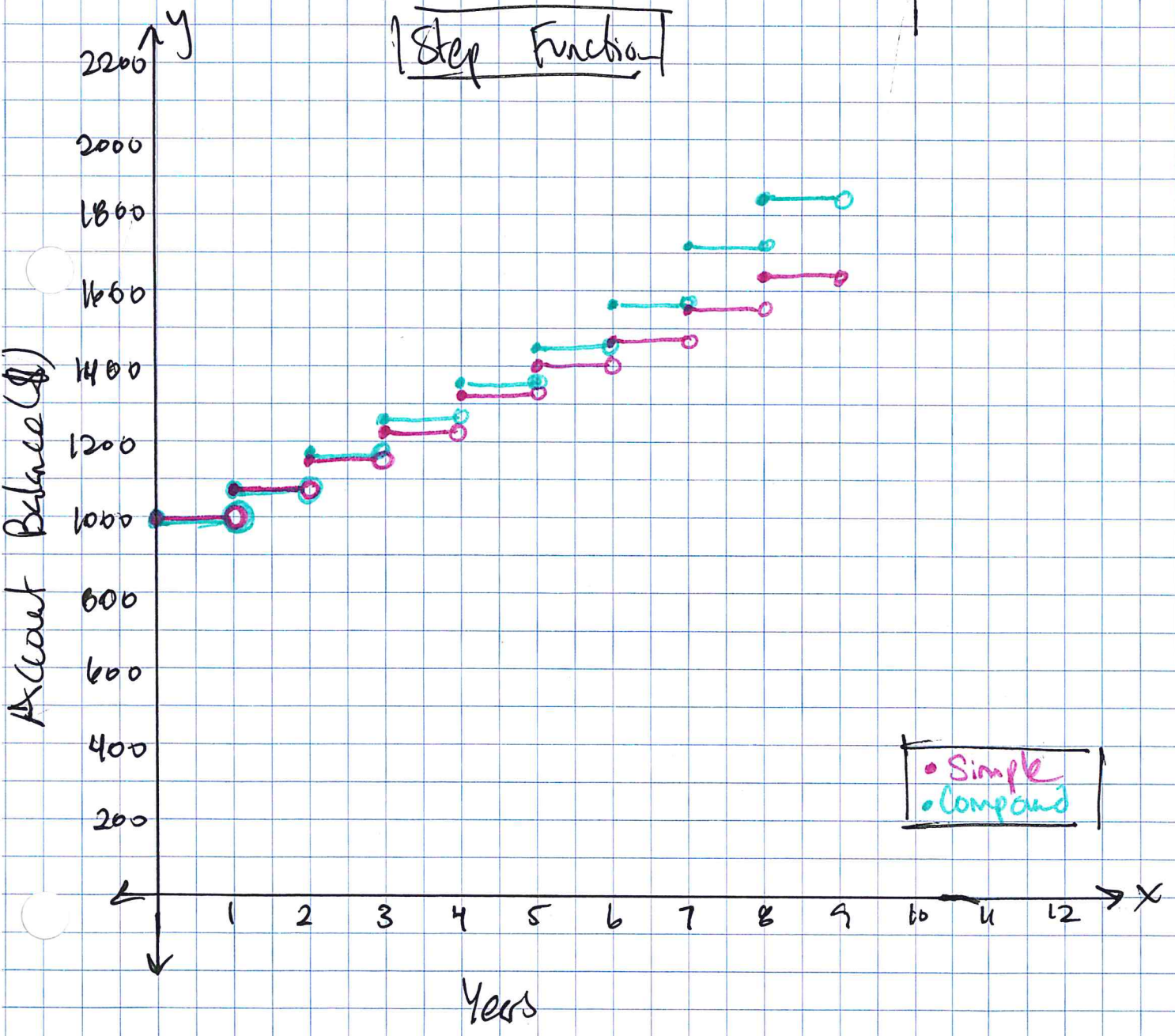
Simple Interest

X Years	y Money
0	1000
1	1080
2	1160
3	1240
4	1320
5	1400
6	1480
7	1560
8	1640

Compound Interest

X Years	y Money
0	1000
1	1086
2	1166.46
3	1259.71
4	1360.49
5	1469.33
6	1586.87
7	1713.82
8	1856.93

Step Function



17-32 a.) $x = \text{years}$
 $y = \text{account balance}$

Simple Interest

$$y = 80x + 1000$$

Compound Interest

$$y = 1000(1.08)^x$$

c.) $x = 20 \text{ years}$

$$y = 1000(1.08)^{20}$$
$$y = \$4,660.96$$

After 20 years
the account
balance would be
\$4,660.96.

17-33 $x = \text{quarters of years}$
 $y = \text{account balance}$

a.) $y = 1000(1.02)^x$

b.) $y = 1000(1.02)^{16}$