| 1. | Now | Future $(+5)$ |
| :--- | :---: | :---: |
| Sammie | $x+15$ | $x+20$ |
| Friend | $x$ | $x+5$ |

$$
\begin{aligned}
x+20 & =1.5(x+5) \\
x+20 & =1.5 x+7.5 \\
20 & =0.5 x+7.5 \\
12.5 & =0.5 x \\
25 & =x \\
25+15 & =40
\end{aligned}
$$

Sammie is 40 years old and her friend is 25 years old.
3.

|  | Now | Future $(+x)$ |
| :--- | :---: | :---: |
| Man | 40 | $40+x$ |
| Son | 8 | $8+x$ |

$x=\#$ of years in the future $=8$ years

| $40+x$ | $=3(8+x)$ |
| ---: | :--- |
| $40+x$ | $=24+3 x$ |
| 40 | $=24+2 x$ |
| 16 | $=2 x$ |
| 8 | $=x$ |


| 5. | Now | Future <br> $(+1)$ | Past <br> $(-1)$ |
| :--- | :---: | :---: | :---: |
|  | $x$ | $x+1$ | $x-1$ |
| John | $x$ | $21-x$ | $19-x$ |
| Mike | $20-x$ |  |  |

$$
\begin{aligned}
x+1 & =9(19-x) \\
x+1 & =171-9 x \\
10 x+1 & =171 \\
10 x & =170 \\
x & =17 \\
20-17 & =3
\end{aligned}
$$

John is 17 years old and Mike is 3 years old.

| 2. |  |  |
| :---: | :---: | :---: |
|  | Now | Past (-3) |
| Al | $2 x$ | 2x-3 |
| Judy | x | $x-3$ |
| $2 x-3=3(x-3)$ |  |  |
| $2 x-3=3 x-9$ |  |  |
| $-3=x-9$ |  |  |
| $6=x$ |  |  |
| $2(6)=12$ |  |  |

Judy is 6 years old and $A l$ is 12 years old.
4.

|  | Now | Future (+8) |
| :--- | :---: | :---: |
| Jane | $3 x$ | $3 x+8$ |
| Allison | $x$ | $x+8$ |

$$
\begin{aligned}
3 x+8 & =2(x+8)+14 \\
3 x+8 & =2 x+16+14 \\
3 x+8 & =2 x+30 \\
x+8 & =30 \\
x & =22 \\
3(22) & =66
\end{aligned}
$$

Allison is 22 years old and Jane is 66 years old.
6.

|  | Now | Future <br> $(+8)$ | Past <br> $(-3)$ |
| :--- | :---: | :---: | :---: |
| Mark | $x-10$ | $x-2$ | $x-13$ |
| Larry | $x$ | $x+8$ | $x-3$ |

$$
\begin{aligned}
x+8 & =4+2(x-13) \\
x+8 & =4+2 x-26 \\
x+8 & =2 x-22 \\
8 & =x-22 \\
30 & =x \\
30-10 & =20
\end{aligned}
$$

Larry is 30 years old and Mark is 20 years old.

\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{3}{|l|}{7.} \& \multicolumn{3}{|l|}{8.} \\
\hline \& Now \& Future (+7) \& \& Now \& Future (+2) \\
\hline Bill \& $2 \times$ \& $2 x+7$ \& Cindy \& 2x-4 \& $2 x-2$ \\
\hline Dan \& X \& $x+7$ \& Melissa \& X \& $x+2$ \\
\hline Dan is \& + 7)
+10.5

d Bill \& ears old. \& Melissa is \& $.75(2 x$
$1.5 x-1.1$
$0.5 x-1.5$
$0.5 x$
$x$
0 \& 10 years old \\
\hline \multicolumn{3}{|l|}{9.} \& \multicolumn{3}{|l|}{10.} \\
\hline \& Now \& Past (-4) \& \& Now \& Past (-3) \\
\hline Sam \& $x-8$ \& $x-12$ \& Jean \& $2 x$ \& $2 x-3$ \\
\hline Mike \& $\times$ \& $x-4$ \& Michelle \& $x$ \& $x-3$ \\
\hline Mike is \& $=20$
$=20$
$=36$
$=18$

$=10$ \& years old. \& | $2 x$ |
| :--- |
| Michelle i old. | \& | $\begin{aligned} & =45 \\ & =45 \\ & =51 \\ & =17 \\ & =34 \end{aligned}$ |
| :--- |
| old and | \& is 34 years \\

\hline
\end{tabular}

