$$
\begin{aligned}
& 11-6-13 \\
& 3^{\prime \prime} T r i y
\end{aligned}
$$

Groph $y=\frac{1}{2} x+1$


Give the equation in
slope intercept form (SIt) that goes through $(2,7)$ and has a slope of 4 .

$$
\begin{aligned}
& y-y_{1}=m\left(x-x_{1}\right) \\
& y-7=4(x-2) \\
& y-7=4 x-8 \\
&+7+7 \\
& y=4 x-1
\end{aligned}
$$

Give equation in SIP the
goes through $(2,-6)$ and has
a slope of -4 .

$$
\begin{aligned}
& \text { pe of }-4 . \\
& y-y=m\left(x-x_{1}\right) \\
& y--6=-4(x-2) \\
& y+6=-4 x+8
\end{aligned}
$$

$$
\begin{aligned}
& y \\
& y+6=-4 x+8 \\
& -6
\end{aligned}
$$

$$
\begin{aligned}
& y+6 \\
& \hline y=-4 x+2
\end{aligned}
$$

Give the equation in SIT
that goes through
$(2,5)$ and $(4,15)$.
slope $=\frac{\Delta y}{\Delta x}=\frac{15-5}{4-2}=\frac{10}{2}=5$
$y-y_{1}=m\left(x-x_{1}\right)$
$y-15=5(x-4)$
$\begin{array}{r}y-15 \\ y+15\end{array}=5 x-20$
$+15+15$
$y=5 x-5$

Give the equation in SIft the
is parallel to $y=6 x-1$ and goes
through $(2,1)$.

$$
\begin{aligned}
& y-y_{1}=m\left(x-x_{1}\right) \\
& y-1=6(x-2) \\
& y-1=6 x-12 \\
& \frac{y}{+1}=6 x-11
\end{aligned}
$$

Give the equation in SIF
that guesthrough (2.4)
and is perpendicular to
$y=\frac{1}{4} x-7$.
$m=\frac{1}{4} \quad y-y_{1}=m\left(x-x_{1}\right)$
$\therefore \quad \therefore \quad y-4=-4(x-2)$

$$
\begin{array}{r}
y-4=-4 x+8 \\
+4
\end{array}
$$

$$
\frac{y+4}{y=-4 x+12}
$$

$$
\begin{aligned}
& 11-6-13 \\
& 4^{=-} T r: 9
\end{aligned}
$$



Give the equation in slope intercept form (SIF) that goes through $\left(\frac{1}{y_{1}} \frac{7)}{y_{1}}\right.$ and has a slope of $2{ }^{Y}$.

$$
\begin{aligned}
& y-y_{1}=m\left(x-x_{1}\right) \\
& y-7=2(x-1) \\
& y-7=2 x-2 \\
& +7+7 \\
& y=2 x+5
\end{aligned}
$$

Give the equation in SIf that has a slope of 10 and goes through $(2,7)$.

$$
\begin{aligned}
& y-y_{1}=m\left(x-x_{1}\right) \\
& y-7=10(x-2) \\
& y-7=10 x-20 \\
& y 77 \\
& y=10 x-13
\end{aligned}
$$

Give the equation in SIG
that goes through

$$
\begin{aligned}
& (2.7) \text { and }(4,13) \\
& \text { Slope }=\frac{\Delta y}{\Delta x}=\frac{13-7}{4-2}=\frac{6}{2}=3 \\
& y-y=m\left(x-x_{1}\right) \\
& y-7=3(x-2) \\
& y-7=3 x-6 \\
& +7 \\
& +7
\end{aligned}
$$

Give the equation in SIF that is parallel to $y=4 x-1$
and goes through $(2,10)$.
$y-y_{1}=m\left(x-x_{1}\right)$
parallel
$y-10=4(x-2)$
$m=4$
$\begin{array}{r}x-10=4 x-8 \\ +10\end{array}$
$\begin{array}{r}+10+10 \\ \hline y=4 x+2\end{array}$

Give the equation in SIF
that goes through $(4,8)$ and is perpendicular to

$$
\begin{array}{ll}
y=2 x-3 . & y-y_{1}=m\left(x-x_{1}\right) \\
m=2 \\
\therefore \perp=-\frac{1}{2} & y-8=-\frac{1}{2}(x-4) \\
y-8=-\frac{1}{2} x+2 \\
+8 & \\
& y=-\frac{1}{2} x+10
\end{array}
$$

