Parallel Lines

$$
y=m x+c
$$

$\uparrow_{\operatorname{gradient}} \uparrow \quad \begin{gathered}\text {-intercept }\end{gathered}$

Find equ of lime parallel to

$$
y=3 x-4 \quad \text { passing through }(2,7)
$$

Line is of the form

$$
\begin{aligned}
& \operatorname{sug} \\
& (2,7)
\end{aligned}
$$

$$
\begin{gathered}
y=3 x+c \\
7=3(2)+c \\
7=6+c \\
7-6=c \\
1=c
\end{gathered}
$$

Line is $y=3 x+1$

Exercise

1) Find eq n of line parallel to $y=\frac{1}{2} x+4$ passing through $(4,9)$

Line is of form $y=\frac{1}{2} x+<$
$\operatorname{Sos}(4,9)$

$$
\begin{aligned}
q & =\frac{1}{2}(4)+c \\
q & =2+c \\
q-2 & =c \\
7 & =c \\
y=\frac{1}{2} x & +7
\end{aligned}
$$

2) Find equ of line parallel to $y=-2 x-3 \quad$ passing through $(1,7)$

Line is of form $y=-2 x+c$ $\operatorname{Sos}(1,7)$

$$
\begin{gathered}
7=-2(1)+c \\
7=-2+c \\
7+2=c \\
9=c
\end{gathered}
$$

$$
y=-2 x+9
$$

