#8

$(5, 2)$ $(5, -1)$
  x_1 y_1 x_2 y_2

ex: $(3, \underline{1})$ $(5, \underline{1})$

$\longleftrightarrow$ $m = 0$

$m = \dfrac{y_2 - y_1}{x_2 - x_1}$

$= \dfrac{(-1) - (2)}{(5) - (5)}$

$= \dfrac{-3}{0}$ m IS UNDEFINED

#9

$\left(\dfrac{7}{3}, \dfrac{1}{3}\right)$ $\left(\dfrac{3}{10}, \dfrac{5}{6}\right)$ $m = \dfrac{\left(\dfrac{5}{6} - \dfrac{1}{3}\right)}{\left(\dfrac{3}{10} - \dfrac{7}{5}\right)}$
  x_1 y_1 x_2 y_2

$m = \dfrac{\left(\dfrac{5}{6}\right) - \left(\dfrac{1}{3}\right)}{\left(\dfrac{3}{10}\right) - \left(\dfrac{7}{5}\right)}$

$= \dfrac{\overset{5}{\cancel{30}}\left(\dfrac{5}{\cancel{6}}\right) - \overset{10}{\cancel{30}}\left(\dfrac{1}{\cancel{3}}\right)}{\underset{1}{\cancel{30}}\left(\dfrac{3}{\cancel{10}}\right) - \underset{1}{\cancel{30}}\left(\dfrac{7}{\cancel{5}}\right)}$

$\dfrac{25 - 10}{9 - 42}$

$\dfrac{15}{-33}$

$\boxed{\dfrac{5}{-11}}$

#10

$m = 3$ $(-2, 1)$

$m = \dfrac{3}{1}$ ← CHANGE IN Y UP 3
     ← CHANGE IN X R 1

#11 $m = \dfrac{2}{3}$ $(-1, -3)$

$m = \dfrac{2 \frown UP\ 2}{3 \frown R\ 3}$

SLOPE INTERCEPT FORM

$y = mx + b$
        $\downarrow$ $\downarrow$
      SLOPE   y-INT.

#12 $m = 2$ $\overset{X\ \ Y}{(3, -2)}$
FIND EQN. OF LINE

① FIND m
   $m = 2$

② PLUG IN GIVEN POINT FOR X, Y. PLUG IN m FROM ① AND FIND b

$y = mx + b$
$-2 = (2)(3) + b$
$-2 = 6 + b$
$-2 - 6 = b$
$-8 = b$

③ WRITE ANSWER

$y = mx + b$
$\boxed{y = 2x - 8}$

#13
  $m = -\dfrac{2}{5}$ $\overset{X\ \ Y}{(2, -3)}$

① $m = -\dfrac{2}{5}$

② $y = mx + b$
$-3 = -\dfrac{2}{5}(2) + b$
$-3 = \dfrac{-4}{5} + b$
$-3 + \dfrac{4}{5} = b$

$\dfrac{-3}{1} + \dfrac{4}{5} = b$
$\dfrac{-15}{5} + \dfrac{4}{5} = b$
$\dfrac{-11}{5} = b$

③ $y = mx + b$
$\boxed{y = -\dfrac{2}{5}x - \dfrac{11}{5}}$

#14 $\overset{\longleftrightarrow}{\ }$ $m = 0$ $(4, \underline{-1})$
$y = \#$
$\boxed{y = -1}$

ex: m IS UNDEFINED $(\underline{3}, 2)$

$\uparrow\!\!\updownarrow\!\!\downarrow$ $\boxed{x = 3}$
$x = \#$