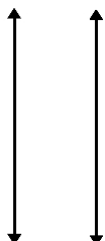
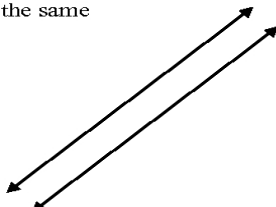


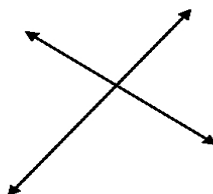
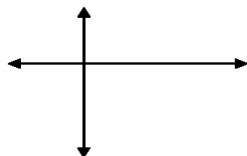
All horizontal lines are parallel
IF they don't have the same
y-intercept.



All vertical lines are par
IF they don't have the same
x-intercept.



All lines that have the SAME
SLOPE are parallel IF they
don't have the same y-
intercept.



PERPENDICULAR lines have slopes
that are NEGATIVE RECIPROCALs ;
the four angles are all 90° .

Determining if lines are parallel, perpendicular or neither from their equations:

Parallel: All the following lines are \parallel :

$$\begin{aligned} y &= 2x + 3 \\ y &= 2x - 3 \\ y &= 2x \\ y &= 2x - 7 \end{aligned}$$

Perpendicular: These pairs of lines are \perp :

$$\begin{aligned} y &= 3x + 4 & y &= -\frac{4}{5}x \\ y &= -\frac{1}{3}x - 8 & \text{and} & y = \frac{5}{4}x + 4 \end{aligned}$$

$$\text{and } y = x - 4 \text{ and } y = -x - 4$$

Neither:

$$\begin{aligned} y &= 2x - 7 & y &= \frac{3}{5}x + 4 \\ y &= 2x - 7 & \text{and} & y = \frac{5}{3}x + 7 \end{aligned}$$