

PARALLEL LINES: HAVE SAME SLOPES

PERPENDICULAR LINES: HAVE SLOPES THAT ARE NEGATIVE RECIPROALS

#2

$$-4x - 2y = 5$$

$$-4x - 5 = 2y$$

$$-\frac{4}{2}x - \frac{5}{2} = \frac{2}{2}y$$

$$-2x - \frac{5}{2} = y$$

$$m = -2$$

$$12x + 6y = -7$$

$$6y = -12x - 7$$

$$\frac{6}{6}y = \frac{-12}{6}x - \frac{7}{6}$$

$$y = -2x - \frac{7}{6}$$

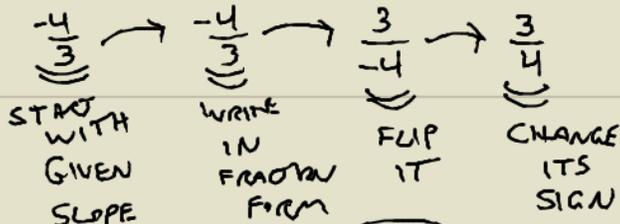
$$m = -2$$

SAME SO
PARALLEL

#1 $m = -\frac{4}{3}$

a) PARALLEL: $m = -\frac{4}{3}$

b) PERP:



$m = \frac{3}{4}$

#3

PARALLEL TO $y = -2x + 3$
THROUGH $(-3, 4)$
x y

STEP 1: FIND m

a) WRITE GIVEN LINE IN SLOPE INTERCEPT FORM

$$y = -2x + 3$$

b) IDENTIFY SLOPE
SLOPE IS -2

c) PARALLEL LINES HAVE SAME SLOPE SO
 $m = -2$

STEP 2: PLUG IN GIVEN POINT FOR X AND Y.
PLUG IN m FROM (a) (c) AND SOLVE FOR b

$$y = mx + b$$

$$4 = -2(-3) + b$$

$$4 = 6 + b$$

$$4 - 6 = b$$

$$-2 = b$$

STEP 3: WRITE ANSWER

$$y = mx + b$$

$$y = -2x - 2$$

#4

PARALLEL TO $3x + y = 5$
THRU $(-2, 6)$
x y

1 a) $3x + y = 5$

$$y = -3x + 5$$

b) SLOPE IS -3

c) $m = -3$

2 $y = mx + b$

$$6 = -3(-2) + b$$

$$6 = 6 + b$$

$$6 - 6 = b$$

$$0 = b$$

3 $y = mx + b$

$$y = -3x + 0$$

$$y = -3x$$

//

+