SHOW ALL WORK! No work = no credit.

Write the equation of a line in slope intercept form with the given slope and y-intercept or through the given points

1) m = 3/7
b = -1

1) $y = \frac{3}{7}x - 1$

2) (-3, 7) and (1,2)

$\frac{2-7}{1-(-3)} = \frac{-5}{4}$ $2 = \frac{-5}{4} + b$ $+\frac{5}{4} \quad +\frac{5}{4}$ -1.25 $\frac{13}{4} = b$

2) $y = -\frac{5}{4}x + \frac{13}{4}$ 3.25
$y = -1.25x + 3.25$

Write the equation in standard form

3) $(6/5)y = (-4/5)x + 2$

$(\frac{4}{5}x + \frac{6}{5}y = 2)5$

3) $4x + 6y = 10$

4) $-2y = (7/3)x - 3$

$(-\frac{7}{3}x - \frac{2}{1}y = -3)(-3)$

$7x + 6y = 9$

4) _____

Write an equation in standard form for the line through the given points or through the given point with the given slope.

5) (3, -2) and m = -4/3

$-2 = -\frac{4}{3}(3) + b$

$-2 = -4 + b$
$+4 \quad +4$

$2 = b$

5) $y = -\frac{4}{3}x + 2$

$(\frac{4}{3}x + y = 2)(3)$

$4x + 3y = 6$

6) (3, 6) and m = 3

$6 = 3(3) + b$ $y = 3x - 3$

$6 = 9 + b$ $(-3x + y = -3)(-1)$

$-3 = b$

6) $3x - y = 3$

Write the following equations:

7) (3, -1) and (-6, -4)

$\frac{-4-(-1)}{-6-3} = \frac{-3}{-9} = \frac{1}{3}$

Slope: $1/3$

$-1 = 3(1/3) + b$

$-1 = 1 + b$

$-1 \quad -1$

$-2 = b$

Slope-intercept Form: $y = 1/3x - 2$

$(-\frac{1}{3}x + y = -2)(-3)$

$x - 3y = 6$

Standard Form: $x - 3y = 6$

8) Write the equation of the line in slope-intercept from that passes through (3, 2) and is parallel to the line y = 3x + 4.

$2 = 3(3) + b$

$2 = 9 + b$

$-7 = b$

$y = 3x - 7$

9) Write the equation of the line in slope-intercept form that passes through (4, -1) and is perpendicular to y = 2x - 4. $m = -\frac{1}{2}$

$-1 = -\frac{1}{2}(4) + b$

$-1 = -2 + b$
$+2 \quad +2$

$1 = b$

$y = -1/2x + 1$

10) Decide if the two lines are parallel, perpendicular, or neither. $2x - 3y = 10$

$\frac{-3y}{-3} = \frac{-2x + 10}{-3}$

$y = 2/3x - 10/3$

$3x + 2y = 5$

$\frac{2y}{2} = \frac{-3x + 5}{2}$

$y = -3/2x + 5/2$

Perpendicular