Equation la:

Y = -3x-6)

Straight Lines II - More Review

The equation of line l_1 is $y = -\frac{1}{3}x + \frac{3}{4}$, $\frac{3}{4}$ $\frac{3}{4}$ 1. and the equation of line l_2 is $y = 3x + \frac{2}{3}$. $\begin{cases} rrr = 3 \end{cases}$

Which of the following statements is true? Circle the right answer.

- (a)) l_1 is perpendicular to l_2 .
- b) l_1 is parallel to l_2 .
- c) l_1 coincides with l_2 .
- d) l₁ is neither perpendicular nor parallel to l₂.
- Determine the equation of the line that passes through point (-2,0) and that is 2. parallel to the line whose equation is $x + \frac{y}{3} = -1$. Show each step in the solution.

Solution.

$$\frac{1}{3} = -1$$
 $\frac{1}{3} = -1$
 $0 = (-3)(-2) + b$
 $0 = (-3)(-2) + b$

What is the equation of the line that passes through point $(\frac{2}{3}, \frac{1}{4})$ and that is perpendicular to the line whose equation is $\frac{2x}{3} = \frac{-y}{4}$

Show each step in the solution.

Show each step in the solution.
$$\frac{2}{3} \times = -\frac{1}{4} \quad Y \qquad Y = m \times + b$$

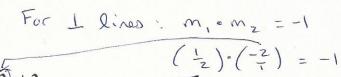
$$\frac{1}{4} \quad Y = -\frac{2}{3} \times \qquad \qquad \frac{1}{4} = \left(\frac{3}{8}\right)\left(\frac{2}{3}\right) + b$$

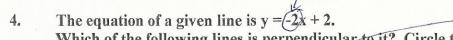
$$\frac{1}{4} \quad Y = -\frac{3}{8} \times \qquad \qquad \frac{1}{4} = \left(\frac{3}{8}\right)\left(\frac{2}{3}\right) + b$$

$$\frac{1}{4} \quad Y = -\frac{3}{8} \times \qquad \qquad \frac{1}{4} = \frac{6}{24} + 6 + b$$

$$\frac{1}{4} \quad Y = -\frac{8}{3} \times \qquad \qquad \frac{1}{4} = \frac{1}{4} + b$$

$$Q = \frac{1}{4} \quad -\frac{1}{4} = b$$





Which of the following lines is perpendicular to it? Circle the right answer.

$$a) y = 2x + 2$$

b)
$$y = -2x - \frac{1}{2}$$

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

5. Determine the equation of a line that passes through point (-1, 6.5) and which is parallel to another line whose equation is
$$x + 4y + 4 = 0$$
. Show each step in the solution.

$$0 \times x = -\frac{1}{4} \quad (-1, 6.5)$$

$$\frac{Q_{1}}{x + 4y + 4 = 0}$$

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

$$y = mx + b$$
 Eqn la
6.5 = $(-\frac{1}{4})^{-1}$ +b

$$6\frac{1}{2} = \frac{1}{4} + \frac{25}{4}$$

$$6\frac{1}{2} - \frac{1}{4} = b$$

$$\frac{13^{2}}{2 \cdot 2} - \frac{1}{4} = b$$

$$\frac{25}{4} = \frac{26}{4} - \frac{1}{4} = b$$

6. A line passes through the point
$$(\frac{1}{6}, \frac{1}{4})$$
. Determine the equation of this line if

$$\frac{2}{3} \times = \frac{24}{1} - 1$$

$$-\frac{1}{2} \left(-\frac{24}{3} \right) = \frac{2}{3} \times -1$$

$$y = \frac{2}{6} \times + \frac{1}{2}$$

it is perpendicular to another line whose equation is
$$\frac{2}{3}x = 2y - 1$$
.

$$\frac{2}{4} \qquad m = -3 \qquad \left(\frac{1}{4}, \frac{1}{4}\right)$$

$$\lambda = wx + p$$

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

$$\frac{1}{4} = \frac{3}{4} + \frac{1}{4} = b$$

$$\frac{1}{4} = \frac{3}{4} + b$$

$$\frac{1}{4} = \frac{3}{4} + b$$

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

$$(\Upsilon = -3 \times + \frac{3}{4})$$

What is the equation of the line that passes through point
$$(\frac{3}{4}, \frac{2}{3})$$
 and that is

perpendicular to the line whose equation is $\frac{3x}{1} = \frac{-y}{2}$? Show each step in

$$y = \begin{pmatrix} -9 \\ 4 \end{pmatrix} \times$$

$$\left(\frac{3}{4},\frac{2}{3}\right)$$

perpendicular to the line whose equation is
$$\frac{3x}{4} = \frac{-y}{3}$$
? Show each step in the solution. $\frac{Q_2}{2} = \frac{4}{9}$

$$\frac{3}{1}\left(\frac{1}{3}1\right) = \frac{3}{4}\left(\frac{3}{4}x\right)$$

$$\frac{3}{4}\left(\frac{3}{4}x\right)$$

$$\frac{3}{4}\left(\frac{3}{4}x\right)$$

$$\frac{2}{3} = \left(\frac{4}{9}\right)\left(\frac{3}{4}x\right) + b$$

$$\frac{2}{3} = \left(\frac{4}{9}\right)\left(\frac{3}{4}x\right) + b$$

$$\frac{2}{3} = \left(\frac{4}{9}\right)\left(\frac{3}{4}x\right) + b$$

$$\frac{2}{3} = \frac{1}{3} + b$$

$$\frac{2}{3} - \frac{1}{3} = b$$

$$y = \frac{4}{6} \times + \frac{1}{3}$$

- 8. The equation of line l_1 is $y \neq 2x \frac{1}{2}$ and the equation of line l_2 is $y \neq 2x + 2$. Which of the following statements is true? Circle the right answer.
 - a) l₁ is perpendicular to l₂
 - b) l₁ is parallel to l₂
 - c) l₁ coincides with l₂
 - d) l₁ is neither perpendicular nor parallel to l₂
- 9. Determine the equation of the line passing through point (-1, 0) and that is

parallel to the line whose equation is
$$x + \frac{y}{5} = -2$$
.

$$x + \frac{1}{5}y = -2$$

$$y = m \times +b$$

$$0 = (-5)(-1) +b$$

$$y = -5 \times -5$$

$$y = -5 \times -5$$

$$0 = 5 + b$$

$$-5 = b$$

10. Determine the equation of the line passing through point $(-\frac{1}{5}, \frac{5}{6})$ and that is

perpendicular to the line whose equation is $\frac{3x}{5} = \frac{-y}{2}$. Show each step in the solution.

perpendicult solution.

$$\frac{3}{5} \times = -\frac{1}{2} \text{ Y}$$

$$\frac{2}{1} \left(\frac{1}{2} \text{ Y} \right) = \frac{2}{1} \left(\frac{3}{5} \times \right)$$

$$\text{Y} = \begin{pmatrix} -\frac{5}{3} \times \\ \frac{3}{5} \times \\ \frac{3}{$$

1=6=5+6=6

$$\frac{2a}{m} = \frac{5}{6} \left(-\frac{1}{5}, \frac{5}{6} \right)$$

$$\frac{1}{5} = \frac{5}{6} \left(-\frac{1}{5}, \frac{5}{6} \right)$$

$$\frac{5}{6} = \frac{5}{6} \left(-\frac{1}{5}, \frac{5}{6} \right)$$

$$\frac{5}{6} = \frac{-1}{6} \left(-\frac{1}{5}, \frac{5}{6} \right)$$

$$\frac{5}{6} = \frac{-1}{6} \left(-\frac{1}{5}, \frac{5}{6} \right)$$

$$\frac{5}{6} = \frac{-1}{6} \left(-\frac{1}{5}, \frac{5}{6} \right)$$

