Writing Equations of Parallel and Perpendicular Lines

Write the slope-intercept form of the equation of the lines described below.

① Through (5,9)

Parallel to $9x - y = -12$

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② Through (-1,6)

Perpendicular to $x - 5y = 18$

_____

③ Through (-5,2)

Perpendicular to $-2x + 3y = -20$

_____

④ Through (-1,2)

Parallel to $4y = -5x + 16$

_____

⑤ Through (-3,-2)

Parallel to $x + 3y = 4$

_____

⑥ Through (-1,1)

Perpendicular to $y = x + 2$

_____

⑦ Through (-1,2)

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

_____

⑧ Through (4,4)

Perpendicular to $y = \frac{7x}{3} + 4$

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Writing Equations of Parallel and Perpendicular Lines

Answers

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① Through (5,9)

Parallel to $9x - y = -12$

$y = 9x - 36$

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② Through (-1,6)

Perpendicular to $x - 5y = 18$

$y = 1 - 5x$

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③ Through (-5,2)

Perpendicular to $-2x + 3y = -20$

$y = \frac{-3x}{2} - \frac{11}{2}$

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④ Through (-1,2)

Parallel to $4y = -5x + 16$

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

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⑤ Through (-3,-2)

Parallel to $x + 3y = 4$

$y = \frac{-x}{3} - 3$

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⑥ Through (-1,1)

Perpendicular to $y = x + 2$

$y = -x$

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⑦ Through (-1,2)

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

$y = \frac{8}{5} - \frac{2x}{5}$

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⑧ Through (4,4)

Perpendicular to $y = \frac{7x}{3} + 4$

$y = \frac{40}{7} - \frac{3x}{7}$