

$$\textcircled{1} \quad m = -\frac{2}{5}$$

$$\textcircled{2} \quad \text{parallel} \quad m = -\frac{2}{5}$$

$$\textcircled{3} \quad \text{perpendicular} \quad m = \frac{5}{2}$$

$$\textcircled{4} \quad (-6, 3) \quad m = -\frac{2}{5}$$

$$y = mx + b$$
$$3 = -\frac{2}{5}(-6) + b$$

$$3 = \frac{12}{5} + b$$

$$\frac{3}{5} = b$$

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

$$\textcircled{5} \quad m = \frac{5}{2} \quad (-3, 6)$$

$$y = mx + b$$

$$6 = \frac{5}{2}(-3) + b$$

$$6 = -\frac{15}{2} + b$$

$$\frac{27}{2} = b$$

$$y = \frac{5}{2}x + \frac{27}{2}$$

$$\textcircled{6} \quad m = \frac{-7-9}{-5-(-2)} = \frac{-16}{-3} = \frac{16}{3}$$

$$\textcircled{7} \quad m = \frac{11-11}{8-(-1)} = 0 \quad \text{horizontal}$$

$$\textcircled{8} \quad m = \frac{15-(-5)}{4-4} = \text{undefined vertical}$$

9

$$m = \frac{16}{3}$$

$$(-2, 9)$$

$$y = mx + b$$

$$9 = \frac{16}{3}(-2) + b$$

$$9 = -\frac{32}{3} + b$$

$$b = \frac{59}{3}$$

$$y = \frac{16}{3}x + \frac{59}{3}$$

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$$y = 11$$

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$$x = 4$$

(12)

$$\begin{array}{l} A \quad B \\ 7x + 3y = -12 \\ 3x - 3y = 8 \end{array}$$

$$m = -\frac{A}{B}$$

$$m_1 = -\frac{7}{3}$$

$$m_2 = \frac{-3}{-3} = 1$$

neither

$$\textcircled{13} \quad \begin{aligned} 2x + y &= 1 \\ -\frac{1}{2}x - y &= 12 \end{aligned}$$

$$m_1 = \frac{-2}{1} = -2$$

$$m_2 = \frac{-(-\frac{1}{2})}{-1} = -\frac{1}{2}$$

neither

$$\textcircled{14} \quad \begin{aligned} x - y &= 6 \\ x + y &= 3 \end{aligned}$$

$$m_1 = \frac{-1}{-1} = 1$$

$$m_2 = \frac{-1}{1} = -1$$

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