Identify Parallel and Perpendicular Lines

1 Determine whether the pairs of lines with the given slopes are 'Parallel', 'Perpendicular' or 'Neither'.

	m	Parallel/Perpendicular/Neither
ⓐ	$\dfrac{2}{7}$, $-\dfrac{7}{2}$	
ⓑ	$\dfrac{7}{5}$, $\dfrac{7}{5}$	
ⓒ	$\dfrac{2}{3}$, $-\dfrac{2}{3}$	
ⓓ	$\dfrac{8}{3}$, $\dfrac{8}{10}$	
ⓔ	$\dfrac{4}{5}$, $\dfrac{16}{20}$	
ⓕ	$-\dfrac{14}{15}$, $-\dfrac{15}{14}$	
ⓖ	$\dfrac{10}{13}$, $-\dfrac{11}{13}$	

2 Write an equation of the line parallel to the given one that passes through the given point. Show your work.

ⓐ $y = -\dfrac{3}{4}x + 7$; (3,0)

ⓑ $y = -2x + 7$; (-2,5)

ⓒ $y = \dfrac{8}{7}x - 4$; (7,-4)

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ⓓ $y = -7x$; (5,0)

ⓔ $3x + 4y = 20$; (4,6)

ⓕ $y + 4.5 = 2x$; (8,-2)

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Answers

1

	m	Parallel/Perpendicular/Neither
ⓐ	$\dfrac{2}{7}$, $-\dfrac{7}{2}$	Perpendicular
ⓑ	$\dfrac{7}{5}$, $\dfrac{7}{5}$	Parallel
ⓒ	$\dfrac{2}{3}$, $-\dfrac{2}{3}$	Neither
ⓓ	$\dfrac{8}{3}$, $\dfrac{8}{10}$	Neither
ⓔ	$\dfrac{4}{5}$, $\dfrac{16}{20}$	Parallel
ⓕ	$-\dfrac{14}{15}$, $-\dfrac{15}{14}$	Neither
ⓖ	$\dfrac{10}{13}$, $-\dfrac{11}{13}$	Neither

2

ⓐ $y = -\dfrac{3}{4}x + 7$; (3,0) ⓑ $y = -2x + 7$; (-2,5) ⓒ $y = \dfrac{8}{7}x - 4$; (7,-4)

$4y = -3x + 9$ $y = -2x + 1$ $7y = 8x - 84$

ⓓ $y = -7x$; (5,0) ⓔ $3x + 4y = 20$; (4,6) ⓕ $y + 4.5 = 2x$; (8,-2)

$y = -7x + 35$ $4y = -3x + 36$ $y = 2x - 18$