

Parallel and Perpendicular Lines

1) Determine if the given pair of lines are parallel or perpendicular.

a) $y = 11x + 7,$
 $y = 11x - 17$

b) $8x - y = 19,$
 $y = 8x + 3$

c) $\frac{7}{4}x + \frac{1}{2}y = 17$
 $7y - 1 = 2x$

d) $y = 5 - \frac{1}{x}$
 $y = x - 1$

e) $y + \frac{1}{4}x = 2$
 $y + \frac{7}{4} = -\frac{1}{4}x$

f) $4x - 5y = 7$
 $36 - 5x = 4y$

2) Find the slopes of the lines that are parallel and perpendicular to the given ones.

a) $y = 8x - 4$

b) $2y + 7x = 28$

c) $4y + 5x = 36$

d) $\frac{7}{4}y - \frac{5}{9}x = 17$

e) $17x + \frac{5}{4}y = 9$

f) $9x + 7y - 3 = 0$

g) $-\frac{2}{3}x + 6 = 5y$

	Slope of Parallel line	Slope of Perpendicular line
a) $y = 8x - 4$		
b) $2y + 7x = 28$		
c) $4y + 5x = 36$		
d) $\frac{7}{4}y - \frac{5}{9}x = 17$		
e) $17x + \frac{5}{4}y = 9$		
f) $9x + 7y - 3 = 0$		
g) $-\frac{2}{3}x + 6 = 5y$		

Parallel and Perpendicular Lines

1)

Answers

a) $y = 11x + 7,$
 $y = 11x - 17$

b) $8x - y = 19,$
 $y = 8x + 3$

c) $\frac{7}{4}x + \frac{1}{2}y = 17$
 $7y - 1 = 2x$

Parallel Lines

d) $y = 5 - \frac{1}{x}$
 $y = x - 1$

Parallel Lines

e) $y + \frac{1}{4}x = 2$
 $y + \frac{7}{4} = -\frac{1}{4}x$

Perpendicular Lines

f) $4x - 5y = 7$
 $36 - 5x = 4y$

Perpendicular Lines

Parallel Lines

Perpendicular Lines

2)

a) $y = 8x - 4$

b) $2y + 7x = 28$

c) $4y + 5x = 36$

d) $\frac{7}{4}y - \frac{5}{9}x = 17$

e) $17x + \frac{5}{4}y = 9$

f) $9x + 7y - 3 = 0$

g) $-\frac{2}{3}x + 6 = 5y$

	Slope of Parallel line	Slope of Perpendicular line
a)	8	$-\frac{1}{8}$
b)	$-\frac{7}{2}$	$\frac{2}{7}$
c)	$-\frac{5}{4}$	$\frac{4}{5}$
d)	$\frac{20}{63}$	$-\frac{63}{20}$
e)	$-\frac{68}{5}$	$\frac{5}{68}$
f)	$-\frac{9}{7}$	$\frac{7}{9}$
g)	$-\frac{2}{15}$	$\frac{15}{2}$