Parallel and perpendicular lines worksheet:

1. Find a line perpendicular to $x = 3$ and intersecting it at $(3,9)$.

2. Find a line parallel to the *y*-axis and including the point $(-1,-2)$.

3. In each part, determine whether the two lines are parallel, perpendicular, or neither.

a. $y = \frac{3}{5}x - 7$ and $3x - 5y = 2$

b. $y = 4x + 3$ and $y = \frac{1}{4}x - 3$

c. $6x + 2y = 1$ and $x = 1 - 3y$

d. $2y = 5$ and $5y = -2$

e. $2x - 7y = 14$ and $7x - 2y = 14$

f. $x + y = 6$ and $x - y = 6$

g. $x = -3$ and $3y = 5$

h. $\frac{1}{4}x - \frac{3}{4}y = \frac{2}{3}$ and $\frac{1}{6}x = \frac{1}{2}y + \frac{1}{3}$

Answers:

1. $y = 9$

2. $x = -1$

3. a. parallel
   b. neither
   c. neither
   d. parallel
   e. neither
   f. perpendicular
   g. perpendicular
   h. parallel