

Check Your Understanding

Equations of Lines: Parallel, Perpendicular, Intersecting, and Coinciding Lines

Answer these problems, then check your answers using the key on the next page.

#1) State whether these lines are parallel, perpendicular, intersecting, or coinciding:

$$6x - 3y + 3 = 0$$

$$x = \frac{1}{2}y + 2$$

#2) State whether these lines are parallel, perpendicular, intersecting, or coinciding:

$$3x - 3y + 6 = 0$$

$$2y = 4x + 8$$

#3) State whether these lines are parallel, perpendicular, intersecting, or coinciding:

$$x - 4y + 4 = 0$$

$$2x + 8y - 2 = 0$$

#4) Write the equation of a line in slope-intercept form which is perpendicular to the given line:

$$y = \frac{2}{3}x - 1$$

Answers:

#1) *parallel*

#2) *intersecting*

#3) *perpendicular*

#4) $y = -\frac{3}{2}x + (\text{anything})$

for example: $y = -\frac{3}{2}x + 2$