

2.5 Practice - Parallel and Perpendicular Lines

Find the slope of a line parallel to each given line.

1) $y = 2x + 4$

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

3) $y = 4x - 5$

4) $y = -\frac{10}{3}x - 5$

5) $x - y = 4$

6) $6x - 5y = 20$

7) $7x + y = -2$

8) $3x + 4y = -8$

Find the slope of a line perpendicular to each given line.

9) $x = 3$

10) $y = -\frac{1}{2}x - 1$

11) $y = -\frac{1}{3}x$

12) $y = \frac{4}{5}x$

13) $x - 3y = -6$

14) $3x - y = -3$

15) $x + 2y = 8$

16) $8x - 3y = -9$

Write the point-slope form of the equation of the line described.

17) through: $(2, 5)$, parallel to $x = 0$

18) through: $(5, 2)$, parallel to $y = \frac{7}{5}x + 4$

19) through: $(3, 4)$, parallel to $y = \frac{9}{2}x - 5$

20) through: $(1, -1)$, parallel to $y = -\frac{3}{4}x + 3$

21) through: $(2, 3)$, parallel to $y = \frac{7}{5}x + 4$

22) through: $(-1, 3)$, parallel to $y = -3x - 1$

23) through: $(4, 2)$, parallel to $x = 0$

24) through: $(1, 4)$, parallel to $y = \frac{7}{5}x + 2$

25) through: $(1, -5)$, perpendicular to $-x + y = 1$

26) through: $(1, -2)$, perpendicular to $-x + 2y = 2$

27) through: $(5, 2)$, perpendicular to $5x + y = -3$

- 28) through: $(1, 3)$, perpendicular to $-x + y = 1$
29) through: $(4, 2)$, perpendicular to $-4x + y = 0$
30) through: $(-3, -5)$, perpendicular to $3x + 7y = 0$
31) through: $(2, -2)$ perpendicular to $3y - x = 0$
32) through: $(-2, 5)$. perpendicular to $y - 2x = 0$

Write the slope-intercept form of the equation of the line described.

- 33) through: $(4, -3)$, parallel to $y = -2x$
34) through: $(-5, 2)$, parallel to $y = \frac{3}{5}x$
35) through: $(-3, 1)$, parallel to $y = -\frac{4}{3}x - 1$
36) through: $(-4, 0)$, parallel to $y = -\frac{5}{4}x + 4$
37) through: $(-4, -1)$, parallel to $y = -\frac{1}{2}x + 1$
38) through: $(2, 3)$, parallel to $y = \frac{5}{2}x - 1$
39) through: $(-2, -1)$, parallel to $y = -\frac{1}{2}x - 2$
40) through: $(-5, -4)$, parallel to $y = \frac{3}{5}x - 2$
41) through: $(4, 3)$, perpendicular to $x + y = -1$
42) through: $(-3, -5)$, perpendicular to $x + 2y = -4$
43) through: $(5, 2)$, perpendicular to $x = 0$
44) through: $(5, -1)$, perpendicular to $-5x + 2y = 10$
45) through: $(-2, 5)$, perpendicular to $-x + y = -2$
46) through: $(2, -3)$, perpendicular to $-2x + 5y = -10$
47) through: $(4, -3)$, perpendicular to $-x + 2y = -6$
48) through: $(-4, 1)$, perpendicular to $4x + 3y = -9$

