GSE Geometry Name_____

Day 2 Practice - Parallel and Perpendicular Lines

Date_____

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

1) $-y + 2x = -2$

$y = 2x + 2$

$\boxed{2}$

2) $0 = x + 4y - 4$

$y = -\frac{1}{4}x + 1$

$\boxed{-\frac{1}{4}}$

3) $-x - 1 = 0$

$x = -1$

$\boxed{\text{undefined}}$

4) $-2y = -x$

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

$\boxed{\frac{1}{2}}$

5) $-x - y + 3 = 0$

$y = -x + 3$

$\boxed{-1}$

6) $y = 5$

$\boxed{0}$

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

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

$y = -x + b$

$-3 = -3 + b$

$0 = b$

$\boxed{y = -x}$

8) through: $(1, 0)$, parallel to $y = -4x$

$y = -4x + b$

$0 = -4(1) + b$

$0 = -4 + b$

$4 = b$

$\boxed{y = -4x + 4}$

9) through: $(3, -5)$, parallel to $y = -2x + 5$

$y = -2x + b$

$-5 = -2(3) + b$

$-5 = -6 + b$

$1 = b$

$\boxed{y = -2x + 1}$

10) through: $(2, 0)$, parallel to $y = -3$

$y = 0x + b$

$0 = 0(2) + b$

$0 = 0 + b$

$0 = b$

$\boxed{y = 0}$

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

11) $-2y - 3x - 2 = 0$

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

$\boxed{\frac{2}{3}}$

12) $-4x + 2 - y = 0$

$y = -4x + 2$

$\boxed{\frac{1}{4}}$

13) $-3y + 3 = -x$

$y = \frac{1}{3}x + 1$

-3

14) $0 = y - 4$

$y = 4$

undefined

15) $0 = 4y - 3x + 4$

$y = \frac{3}{4}x - 1$

$-\frac{4}{3}$

16) $-x = 4$

$x = -4$

0

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

17) through: $(-1, 0)$, perp. to $y = -x + 5$

$y = x + b$
$0 = -1 + b$
$1 = b$

$y = x + 1$

18) through: $(-5, 0)$, perp. to $y = \frac{5}{2}x + 2$

$y = -2/5x + b$
$0 = -2/5(-5) + b$
$0 = 2 + b$
$-2 = b$

$y = -\frac{2}{5}x - 2$

19) through: $(-3, 5)$, perp. to $x = 0$

$y = 5$

20) through: $(4, -3)$, perp. to $y = 2x - 2$

$y = -1/2x + b$
$-3 = -1/2(4) + b$
$-3 = -2 + b$
$-1 = b$

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

Write the slope-intercept form of the equation of the line through the given point with the given slope.

21) through: $(-2, -2)$, slope $= -\frac{3}{2}$

$y = -3/2x + b$
$-2 = -3/2(-2) + b$
$-2 = 3 + b$
$-5 = b$

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

22) through: $(4, 2)$, slope $= 1$

$y = x + b$
$2 = 4 + b$
$-2 = b$

$y = x - 2$

$m = \frac{y_2 - y_1}{x_2 - x_1}$

Write the slope-intercept form of the equation of the line through the given points.

23) through: $(-1, -4)$ and $(0, -2)$

$\frac{-2-(-4)}{0-(-1)} = \frac{2}{1} = 2$

$y = 2x + b$
$-2 = 2(0) + b$
$-2 = b$

$y = 2x - 2$

24) through: $(4, -2)$ and $(0, 5)$

$\frac{5-(-2)}{0-4} = \frac{7}{-4}$

$y = -7/4x + b$
$5 = -7/4(0) + b$
$5 = b$

$y = -\frac{7}{4}x + 5$

25) through: $(0, 2)$ and $(-1, -4)$

$\frac{-4-2}{-1-0} = \frac{-6}{-1} = 6$

$y = 6x + b$
$2 = 6(0) + b$
$2 = b$

$y = 6x + 2$

26) through: $(3, 2)$ and $(2, 5)$

$\frac{5-2}{2-3} = \frac{3}{-1} = -3$

$y = -3x + b$
$2 = -3(3) + b$
$2 = -9 + b$
$11 = b$

$y = -3x + 11$

