EXERCISE A

Change each equation into slope-intercept form ($y = mx + b$), then name its slope and y-intercept.

1) $2y = 3x - 18$
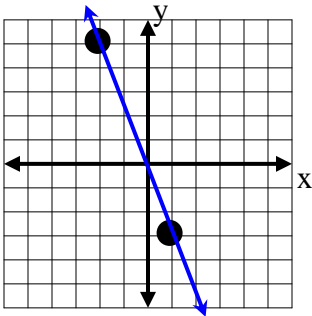2) $x - y = 2$
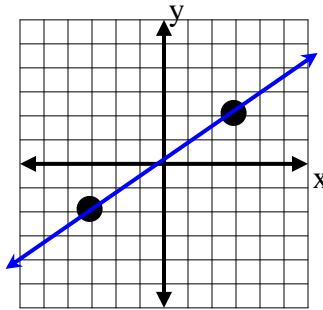3) $2x + 4y = 9$
4) $\dfrac{y}{5} = -3$

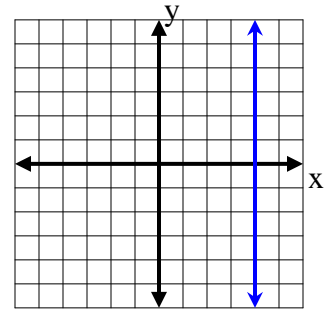Use the graphs shown below to find the slope (rise over run).

5)

6)

7)

Find the slope of the line that passes through each pair of points. $m = \dfrac{y_2 - y_1}{x_2 - x_1}$

8) (-2, -1) & (2, -3)
9) (2, 2) & (4, 2)
10) (4, 5) & (-1, 0)
11) (-7, 3) & (-7, 2)

Graph the line that satisfies each set of conditions.

12) Passes through (0, 3), parallel to the graph of $6y - 10x = 30$.

13) Passes through (1, 1), parallel to a line whose slope is -1.

14) Passes through (4, -2), perpendicular to the graph of $y = \dfrac{3}{2}x + 3$

15) Passes through (-1, 5), perpendicular to the graph of $5x - 3y - 3 = 0$

EXERCISE B

Change each equation into slope-intercept form ($y = mx + b$), then name its slope and y-intercept.
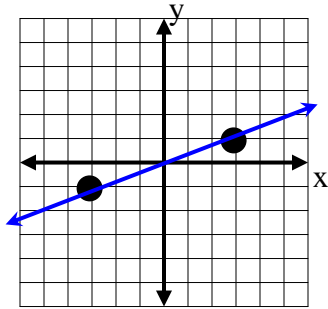
16) $4y + 3x = 20$
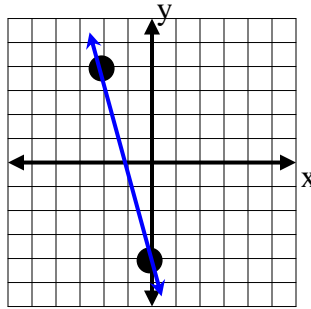17) $-7x = -21$
18) $2x - \dfrac{y}{3} = 1$
19) $8y - 2x - 3 = 0$

Use the graphs shown below to find the slope (rise over run).
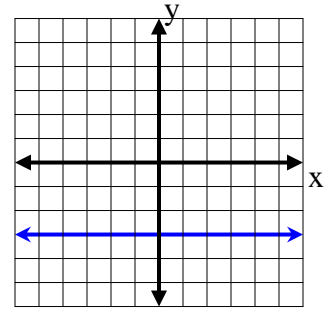
20)

21)

22)

Find the slope of the line that passes through each pair of points. $m = \dfrac{y_2 - y_1}{x_2 - x_1}$

23)   (4, -1) & (6, -6)   24)   (-8, -3) & (2, 3)   25)   (4, -1.5) & (4, 4.5)   26)   (4, 9) & (11, 9)

Graph the line that satisfies each set of conditions.

27)   Passes through (-2, 2), parallel to a line whose slope is -1.

28)   Passes through the origin, parallel to the graph of $x + y = 10$.

29)   Passes through (2, -1), perpendicular to the graph of $2x + 3y = 6$.

30)   Passes through (-4, 1), perpendicular to a line whose slope is $-\dfrac{3}{2}$

EXERCISE C

31)   Graph the line that passes through (-2, 3), perpendicular to the graph of a line that passes through (8, -1) & (4, -4).

32)   Determine the value of r so that the line that passes through (5, r) & (2, 3) has slope of 2.

33)   The Washington Monument is approximately 555 feet, 5 inches tall and weighs 90,854 tons. The monument is topped by a square based aluminum pyramid. The sides of the pyramid's base all measure 5.6 inches. The pyramid is 8.9 inches tall. Estimate the slope that a face of the pyramid makes with its base. **Hint**: *draw a pyramid, and remember slope = rise over run.*

ANSWERS:

1) $y = 3/2x - 9$
    $m = 3/2$
    $b = -9$

3) $y = -1/2x + 9/4$
    $m = -1/2$
    $b = 9/4$

5) $m = -8/3$

7) $m = 0$

9) $m = 0$

11) undefined

12-15) See Mr. Paull

17) $x = 3$

19) $y = 1/4x + 3/8$
    $m = 1/4$
    $b = 3/8$

21) $m = -4$

23) $m = -5/2$

25) undefined

27-31) See Mr. Paull

33) about 3.2
    (or 89/28)