PROBLEM SET 2-2
(Linear Equations)

Find the slope of the line through each pair of points.

1. $(1,6)$ *and* $(8,-1)$

2. $(0,0)$ *and* $(2,6)$

3. $(-2,-1)$ *and* $(8,-3)$

4. $\left(\frac{2}{3},\frac{4}{7}\right)$ *and* $\left(\frac{2}{3},\frac{11}{7}\right)$

5. $(-5,-7)$ *and* $(0,10)$

6. $\left(\frac{3}{2},-\frac{1}{2}\right)$ *and* $\left(-\frac{2}{3},\frac{1}{3}\right)$

7. $\left(0,\frac{1}{2}\right)$ *and* $\left(\frac{5}{7},0\right)$

Find the slope of each line.

8. $3x-2y=-7$

9. $Ax+By=C$

10. $y=0$

Graph the following:

11. $y=-2x+3$

12. $2x-3y=12$

13. $4x-3y=-6$

14. $\frac{1}{5}x-\frac{3}{5}y=\frac{6}{5}$

15. $y=\begin{cases}x+4, \text{ if } x\le -2\\ -x, \text{ if } x>-2\end{cases}$

16. $f(x)=\begin{cases}-2x+1, \text{ if } x<3\\ x-8, \text{ if } x\ge 3\end{cases}$

Write the equation of each line:

17. slope $=\frac{5}{6}$; *contains* $(22,12)$

18. slope $=0$; *contains* $(4,-2)$

19. slope $=5$; *contains* $(0,2)$

20. Contains $(1,0)$ *and* $(5,5)$

21. Contains $(0,-1)$ *and* $(3,-5)$

22. Contains $(1,9)$ *and* $(6,2)$

23. through $(-3,-1)$ and perpendicular to $2x+5y=-20$

24. through $\left(1,-\frac{2}{7}\right)$ and vertical