Example 2
p. 188

Determine the slope of the line that contains the given points.

18. $C(3, 1), D(-2, 1)$

19. $E(5, -1), F(2, -4)$

20. $G(-4, 3), H(-4, 7)$

21. $J(7, -3), K(-8, -3)$

★2 Read Directions Carefully!

Example 3
p. 189

Determine whether $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are *parallel, perpendicular,* or *neither.* Graph each line to verify your answer.

28. $A(1, 5), B(4, 4), C(9, -10), D(-6, -5)$

29. $A(-6, -9), B(8, 19), C(0, -4), D(2, 0)$

30. $A(4, 2), B(-3, 1), C(6, 0), D(-10, 8)$

31. $A(8, -2), B(4, -1), C(3, 11), D(-2, -9)$

Example 4
p. 190

Find the equation of each line.

~~Graph the line that satisfies each condition.~~

34. passes through $A(2, -5)$, parallel to $\overleftrightarrow{BC}$ with $B(1, 3)$ and $C(4, 5)$

35. slope $= -2$, passes through $H(-2, -4)$

36. passes through $K(3, 7)$, perpendicular to $\overleftrightarrow{LM}$ with $L(-1, -2)$ and $M(-4, 8)$

37. passes through $X(1, -4)$, parallel to $\overleftrightarrow{YZ}$ with $Y(5, 2)$ and $Z(-3, -5)$

38. slope $= \frac{2}{3}$, passes through $J(-5, 4)$

39. passes through $D(-5, -6)$, perpendicular to $\overleftrightarrow{FG}$ with $F(-2, -9)$ and $G(1, -5)$
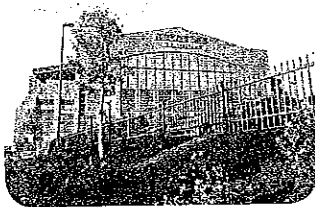
H.O.T. Problems Use Higher-Order Thinking Skills

52. **WRITE A QUESTION** A classmate says that all lines have positive or negative slope. Write a question that would challenge his conjecture.

53. **FIND THE ERROR** Terrell and Hale calculated the slope of the line passing through the points $Q(3, 5)$ and $R(-2, 2)$. Is either of them correct? Explain your reasoning.

Terrell	Hale
$m = \dfrac{5 - 2}{3 - (-2)}$ $= \dfrac{3}{5}$	$m = \dfrac{5 - 2}{-2 - 3}$ $= -\dfrac{3}{5}$

★ You will need graph paper!
Use straight edges for lines you graph