Chapter 7 Review - Linear Equations and Graphs

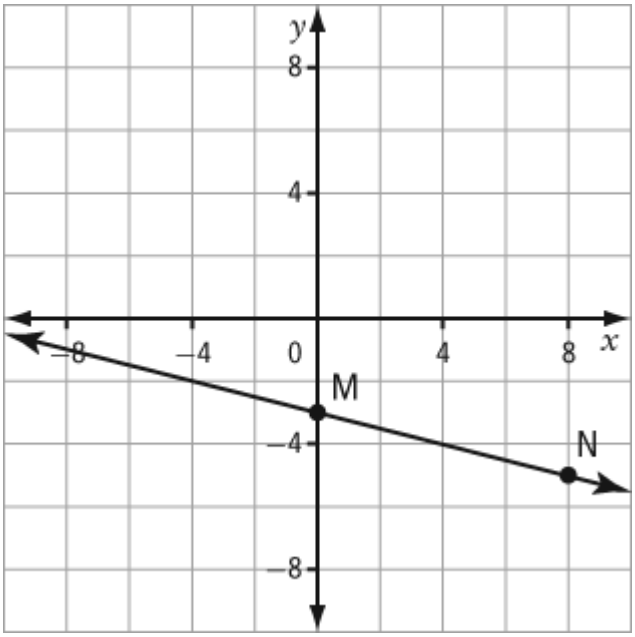
Name: _____ **Date:** _____

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ **1.** In the equation of a line, $y = mx + b$, the y-intercept is represented by the letter
a. b
b. m
c. x
d. y

____ **2.** Identify the equation of the line with a slope of –3 and a y-intercept of 4.
a. $y = 3x + 4$
b. $y = 3x - 4$
c. $y = -3x + 4$
d. $y = -3x - 4$

____ **3.** Which equation represents the line containing points M and N?



a. $y = -4x - 3$
b. $y = -\frac{1}{4}x - 3$
c. $y = \frac{1}{4}x - 3$
d. $y = 4x - 3$

____ **4.** Rewrite the equation $4x + y + 2 = 0$ in slope-intercept form.
a. $y = 4x + 2$
b. $y = 4x - 2$
c. $y = -4x + 2$
d. $y = -4x - 2$

____ **5.** What is the equation $8x - 4y - 12 = 0$ in slope-intercept form?

a. $y = -2x - 3$
b. $y = -2x + 3$ `
c. $y = 2x - 3$
d. $y = 2x + 3$

____ **6.** Identify the slope and y-intercept of the relation represented by the equation $2x - 2y + 3 = 0$.

a. slope: 1, y-intercept: $\frac{3}{2}$
b. slope: 1, y-intercept: $-\frac{3}{2}$
c. slope: –1, y-intercept: $\frac{3}{2}$
d. slope: –1, y-intercept: $-\frac{3}{2}$

____ **7.** What are the slope and y-intercept of the relation represented by the equation $10x + 5y - 15 = 0$?

a. slope: 2, y-intercept: 3
b. slope: 2, y-intercept: –3
c. slope: –2, y-intercept: 3
d. slope: –2, y-intercept: –3

____ **8.** For the line $4x - 3y - 12 = 0$, which statement is true?

a. The x-intercept is 3 and the y-intercept is –4.
b. The x-intercept is 3 and the y-intercept is 4.
c. The x-intercept is 4 and the y-intercept is –3.
d. The x-intercept is 4 and the y-intercept is 3.

____ **9.** What is the slope of the line with an x-intercept of 4 and a y-intercept of –3?

a. $-\frac{4}{3}$
b. $-\frac{3}{4}$
c. $\frac{3}{4}$
d. $\frac{4}{3}$

____ **10.** Identify the equation in general form for the line with slope 3 and y-intercept –4.

a. $3x - y - 4 = 0$
b. $3x - y + 4 = 0$
c. $3x + y - 4 = 0$
d. $3x + y + 4 = 0$

____ **11.** Points M(2, 9) and N(–1, 3) are on a line with y-intercept –4. What is the equation of the line?

a. $y = -4x - 2$
b. $y = -2x + 4$
c. $y = 2x - 4$
d. $y = 4x + 2$

____ **12.** What is the equation of the line through points (2, 3) and (4, 5)?

a. $y = x + 2$
b. $y = x + 1$
c. $y = -x + 1$
d. $y = -x - 2$

____ **13.** What value of q makes the line passing through $\left(\frac{1}{2}, -\frac{1}{4}\right)$ and $\left(q, -\frac{5}{4}\right)$ have a slope of 4?

a. $\frac{1}{4}$
b. $\frac{1}{2}$
c. $\frac{5}{8}$
d. $\frac{5}{2}$

____ **14.** The table of values represents a line. What is the equation of the line?

x	y
−5	−20
0	−5
5	10
10	25
15	40

a. $y = 3x + 5$
b. $y = 3x - 5$
c. $y = -3x + 5$
d. $y = -3x - 5$

____ **15.** The equation of the line with slope $\frac{1}{3}$ that passes through the point (0, –3) is

a. $y = \frac{1}{3}x + 9$

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

c. $y = \frac{1}{3}x - 9$

d. $y = \frac{1}{3}x - 3$

____ **16.** Identify the pair of perpendicular lines.

a. $y = \frac{1}{5}x + 2$
$y = \frac{1}{5}x + 1$

b. $y = \frac{1}{5}x + 2$
$y = 5x + 1$

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

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

____ **17.** What is the equation of the line that is perpendicular to the line $y = –3x + 2$ and passes through (3, –1)?

a. $y = \frac{1}{3}x$

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

c. $y = -\frac{1}{3}x$

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

____ **18.** The slope of the line that is perpendicular to the line $y = \frac{2}{5}x - 3$ is

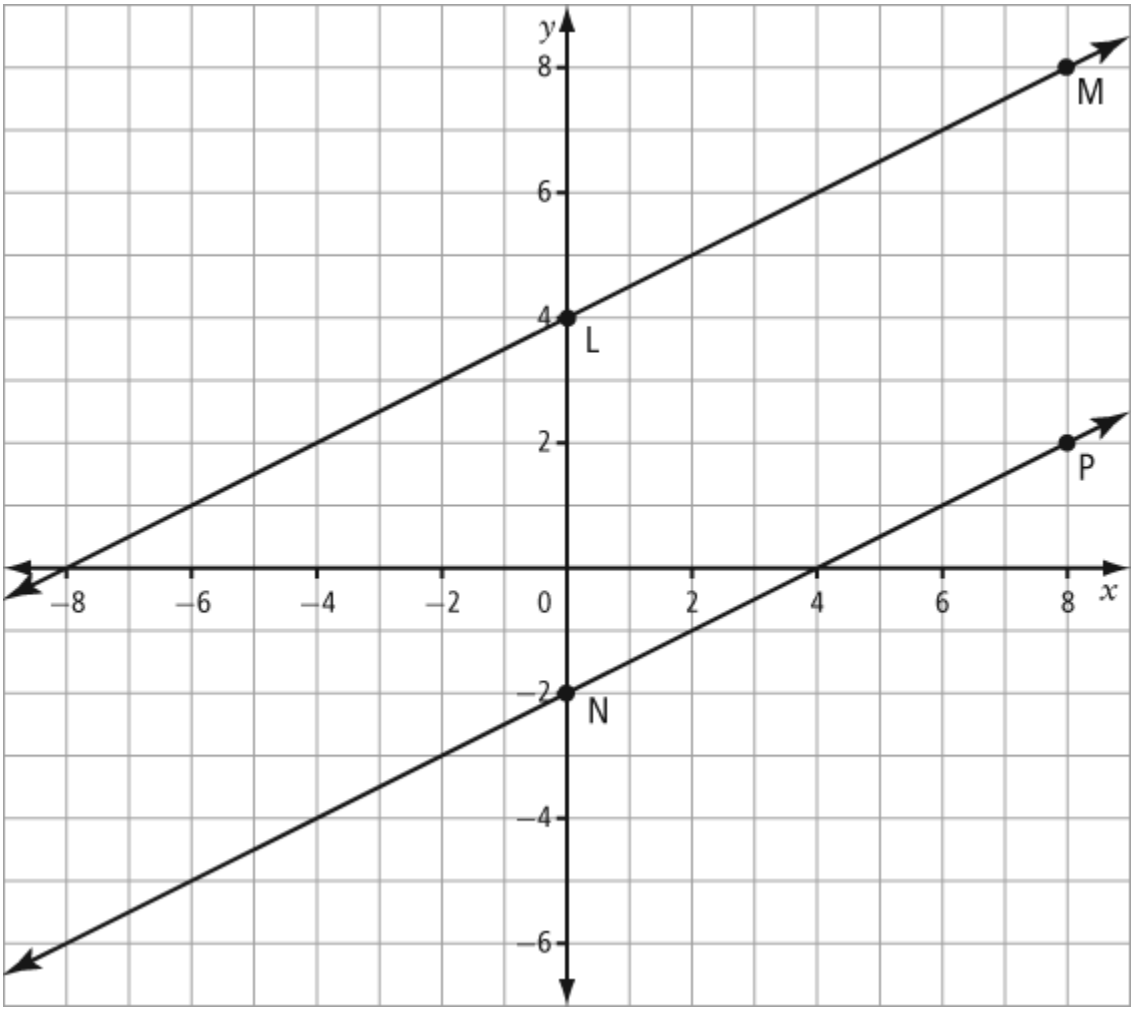
a. $\frac{5}{2}$

b. $\frac{2}{5}$

c. $-\frac{2}{5}$

d. $-\frac{5}{2}$

____ **19.** In the graph, the equation of the line containing LM is $y = 0.5x + 4$. The two lines are parallel. What is the equation of the line containing NP?



a. $y = 0.5x - 2$
b. $y = 0.5x + 2$
c. $y = 2x - 2$
d. $y = 2x + 2$

____ **20.** The equation of line T is $y = 5x + 10$, while the equation of line U is $y = 4x + 10$. Which statement is true?

a. Line T is parallel to line U.
b. Line U is perpendicular to line T.
c. Line T is steeper than line U.
d. Line U is steeper than line T.