

Chapter 4 Test Review Packet

Most of the practice Questions are in this Packet. Some Questions are found in the Chapter Review in your Text Book.

Chapter Topics

Graph a linear Equation (make a table of coordinate points)

Find the Slope of a line (from a graph or from two points)

Identify and graph a proportional relationship ($y=mx$)

Identify the slope and y-intercept (m and b)

Graph a line in Slope-Intercept Form. ($y = mx + b$)

Rewrite lines into Slope-Intercept Form. ($y = mx + b$)

Identify lines in Slope-Intercept Form and Standard Form

$$(y = mx + b) \quad (ax + by = c)$$

Identify the x and y-intercepts. ($ax + by = c$)

Graph a line in Standard Form ($ax + by = c$)

Rewrite lines into Standard Form. ($ax + by = c$)

Writing Equations in Slope-Intercept Form. ($y=mx + b$)

Writing an Equation: Point-Slope Form. ($y - y_1 = m(x - x_1)$)

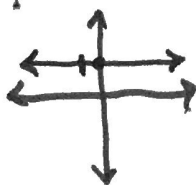
Graph a linear Equation (using a table) #4-6 page 191

Chapter Review in the Text Book

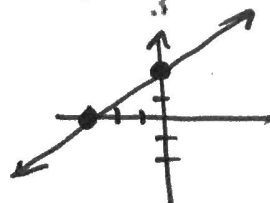
Make a table to graph these Lines. $\frac{2}{3} = -\frac{2}{3}$

4. $y = 1$

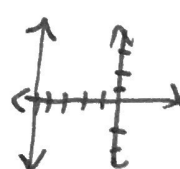
$(-1, 1)$
 $(0, 1)$
 $(2, 1)$



5. $y = \frac{2}{3}x + 2$



6. $x = -5$



$(-5, 9)$
 $(-5, 2)$

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

Find the Slope of a line

Find the slope between the given points.

(3, -4) and (-5, -6)

$$\frac{-6 - (-4)}{-5 - 3} = \frac{-2}{-8}$$

$$m = \frac{1}{4}$$

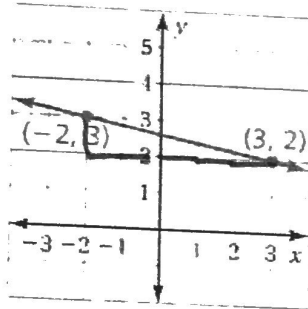
(-1, 3) and (-7, -5)

$$\frac{-5 - 3}{-7 - (-1)} = \frac{-8}{-6}$$

$$m = \frac{4}{3}$$

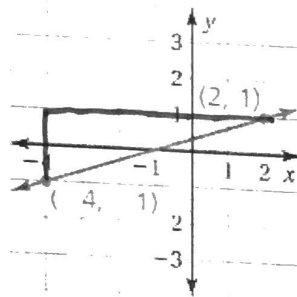
Find the slope of the line.

1.



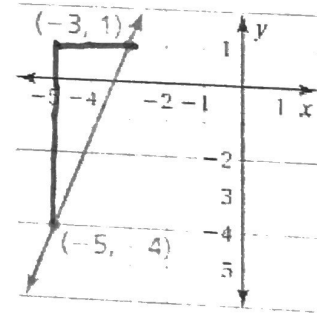
$$m = -\frac{1}{5}$$

2.



$$m = \frac{2}{6} = \frac{1}{3}$$

3.



$$m = \frac{5}{2}$$

Proportional Relationships # 10 and #11 page 192

Chapter Review in the text book

Solve/Graph these Questions

10. **RUNNING** The number y of miles you run after x weeks is represented by the equation $y = 8x$. Graph the equation and interpret the slope. $y = 8x + 0$

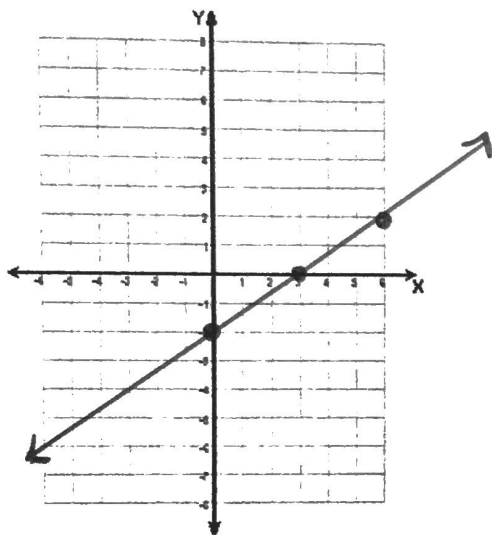
11. **STUDYING** The number y of hours that you study after x days is represented by the equation $y = 1.5x$. Graph the equation and interpret the slope.

$$y = 1.5x + 0$$

Graphing Linear Equations

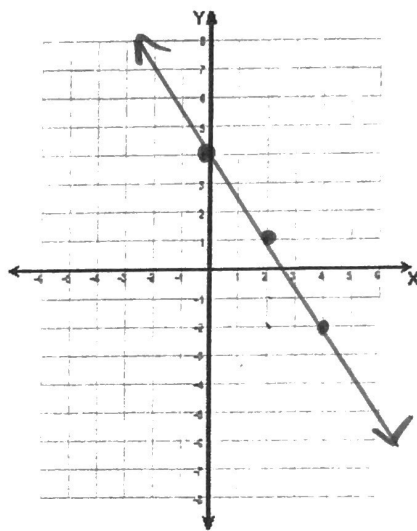
3) $y = \frac{2}{3}x - 2$

$m = \frac{2}{3}$ y-intercept: -2



4) $y = \frac{-3}{2}x + 4$

$m = \frac{-3}{2}$ y-intercept: 4



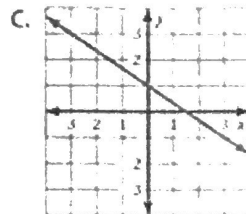
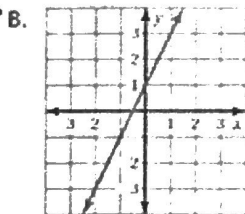
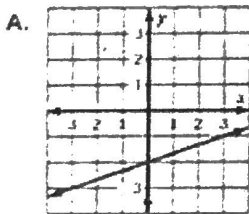
Practice and Problem Solving

Match the equation with its graph. Identify the slope and the y-intercept.

4. $y = 2x + 1$

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

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



4. $m = 2$ $b = 1$
graph B

5. $m = \frac{1}{3}$ $b = -2$
graph A

6. $m = \frac{2}{3}$ $b = 1$
graph C

Rewrite lines into Slope-Intercept Form. $y = mx + b$

$$\begin{array}{r} a) \quad -4x + 2y = 8 \\ \quad +4x \quad +4x \\ \hline \quad \frac{2y}{2} = \frac{4x+8}{2} \end{array}$$

$$y = 2x + 4$$

$$\begin{array}{r} b) \quad -4y - 32 = 2x \\ \quad \quad +32 \quad +32 \\ \hline \quad \frac{-4y}{-4} = \frac{2x+32}{-4} \end{array}$$

$$y = -\frac{1}{2}x - 8$$

$$\begin{array}{r} c) \quad 7y - 2x = 42 \\ \quad +2x \quad +2x \\ \hline \quad \frac{7y}{7} = \frac{2x+42}{7} \end{array}$$

$$y = \frac{2}{7}x + 6$$

$$\begin{array}{r} d) \quad 27 = -3x - 9y \\ \quad \quad -3x - 9y = 27 \\ \quad +3x \quad +3x \\ \hline \quad \frac{-9y}{-9} = \frac{3x+27}{-9} \end{array}$$

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

$$\begin{array}{r} e) \quad -9x - 6y = 60 \\ \quad +9x \quad +9x \\ \hline \quad \frac{-6y}{-6} = \frac{9x+60}{-6} \end{array}$$

$$y = -\frac{3}{2}x - 10$$

$$\begin{array}{r} f) \quad -5x - 12 = -6y \\ \quad \quad -6y = -5x - 12 \\ \quad \quad \quad -6 \quad \quad -6 \\ \hline \end{array}$$

$$y = \frac{5}{6}x + 2$$

$$\begin{array}{r} g) \quad 15 - 3y = -21x \\ \quad -15 \quad \quad -15 \\ \hline \quad \frac{-3y}{-3} = \frac{-21x-15}{-3} \end{array}$$

$$y = 7x + 5$$

$$\begin{array}{r} h) \quad 6y - 15x = -30 \\ \quad +15x \quad +15x \\ \hline \quad \frac{6y}{6} = \frac{15x-30}{6} \end{array}$$

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

Identify lines in Slope-Intercept Form and Standard Form.

a) Which of the following is written in standard form?

A. $8x + 7 = 9y$

B. $-2x - 3y = 20$

C. $y = -5x + 6$

D. $5 = 2x - 3y$

b) Which of the following is written in standard form?

A. $y = 4x - 7$

B. $\frac{1}{3}x + 4 = \frac{2}{5}y$

C. $x + y = -18$

D. $-4 + 15x = y$

c) Which of the following is in slope-intercept form?

A. $x = 3y + 6$

B. $y = -2x + 9$

C. $y - 18 = 2x$

D. $2x + 3y = 6$

d) Which of the following is in slope-intercept form?

A. $7x - 10y = 12$

B. $\frac{1}{3}x + 2y = \frac{2}{5}$

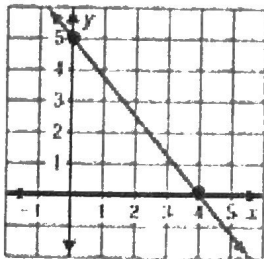
C. $6y = 4 + 5x$

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

Match the equation with its graph.

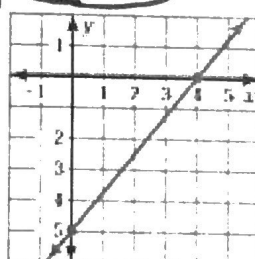
B $15x - 12y = 60$

A.



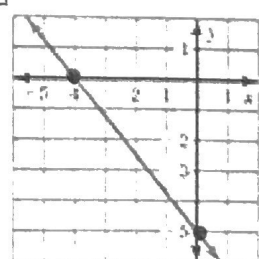
A $5x + 4y = 20$

B.



C $10x + 8y = -40$

C.



$x \text{ int} = 4$
 $y \text{ int} = -5$

$x \text{ int} = 4$
 $y \text{ int} = 5$

$x \text{ int} = -4$
 $y \text{ int} = -5$

Identify the x and y intercepts.

Find the x-intercept and y-intercept for each equation.

(Substitute 0 for x and y, or use the "finger" method)

28) $-9x - 2y = 48$

29) $3x - 6y = -24$

opp!
 $\frac{48}{-9}$
x-int: $-4\frac{1}{3}$ y-int: -24

x-int: -8 y-int: 4

30) $3x - 2y = -12$

31) $10x + 2y = -30$

x-int: -4 y-int: 6

x-int: -3 y-int: -15

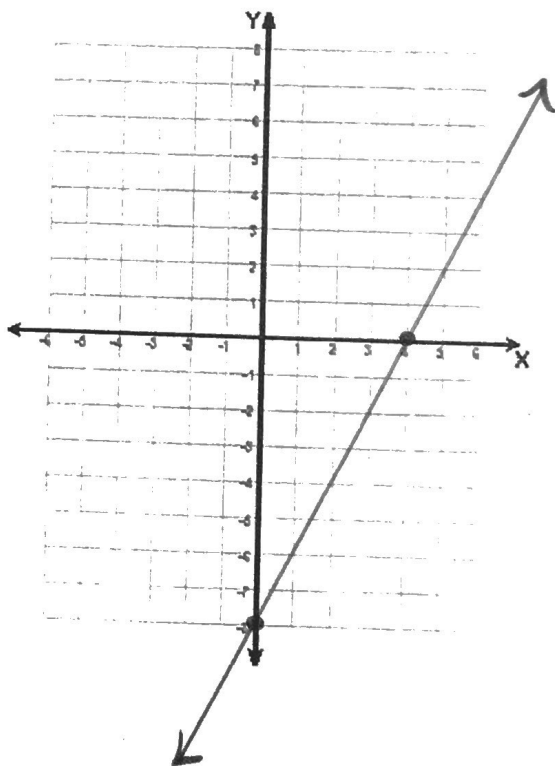
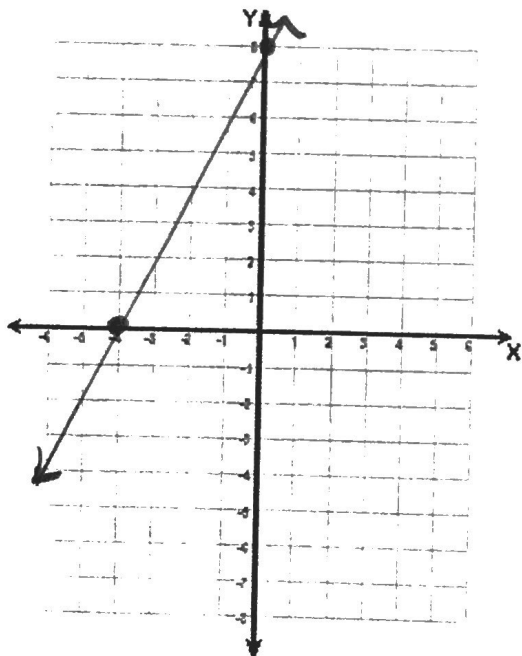
Graph a line in Standard Form

GRAPH the equations using the x-intercept and the y-intercept.

32) $-10x + 5y = 40$

33) $10y - 20x = -80$

x-int: -4 y-int: 8 x-int: 4 y-int: -8



Rewrite lines into Standard Form. $ax + by = c$

a) $2y = -5x - 18$

$+5x + 5x$

$5x + 2y = -18$

b) $12 - 6x = 3y$

$-12 -12$

$-6x = 3y - 12$

$-3y -3y$

$-6x - 3y = -12$

or

$6x + 3y = 12$

c) $3y = -3x + 18$

$+3x + 3x$

$3x + 3y = 18$

d) $2x - 21 = 7y$

$+21 +21$

$2x = 7y + 21$

$-7y -7y$

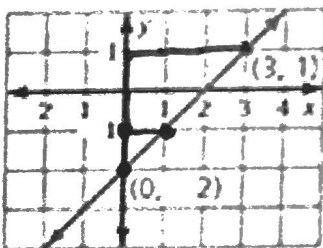
$2x - 7y = 21$

Write an equation of the line in slope-intercept form (pg 195)

Write an equation of the line in slope-intercept form.

20.

$\frac{3}{3} = 1$

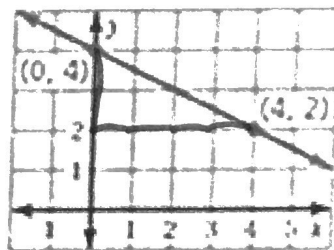


$m = \frac{1}{1}$

$b = 1$

$y = 1x + 1$

21.

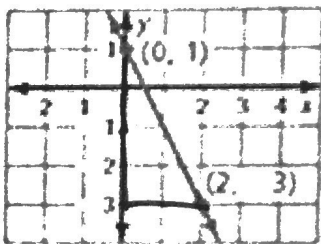


$m = -\frac{1}{2}$

$b = 4$

$y = -\frac{1}{2}x + 4$

22.

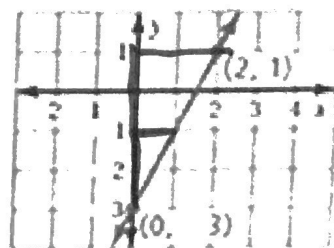


$m = \frac{-4}{2}$

$b = 1$

$y = -2x + 1$

23.



$m = \frac{4}{2}$

$b = 1$

$y = 2x + 1$

y-intercept
when $x=0$

$$(0, -3) \quad y\text{-int} = -3$$

Write an equation of the line in slope-intercept form (4.6)

Write an equation of the line that passes through the points (4, -3) and (0, -1) $b = -1$

$$m = \frac{-1 - (-3)}{0 - 4} = \frac{2}{-4} = -\frac{1}{2}$$

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

Write an equation of the line that passes through the points (0, 1) and (5, -3) $b = 1$

$$m = \frac{-3 - 1}{5 - 0} = \frac{-4}{5}$$

$$y = -\frac{4}{5}x + 1$$

$$m \quad (x_1, y_1) \quad y - y_1 = m(x - x_1)$$

Write an equation of the line in Point-Slope Form. (4.7)

Write an equation in point-slope form that passes through the point (5, -6) with slope 3.

$$y - (-6) = 3(x - 5)$$

$$y + 6 = 3(x - 5)$$

Write an equation in point-slope form that passes through the points (-4, 2) and (6, -3)

$$m = \frac{-3 - 2}{6 - (-4)} = \frac{-5}{10} = -\frac{1}{2}$$

point (-4, 2)

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

$$y - 2 = -\frac{1}{2}(x + 4)$$

$$y - 3 = \frac{1}{2}(x + 2)$$
$$m = \frac{1}{2}$$
$$(-2, 3)$$

You just had lots of practice with this section

(Re-do questions on pg 188 #1-19 that you missed)